



# Atlantic States Marine Fisheries Commission

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*James J. Gilmore, Jr., (NY), Chair*

*Patrick C. Keliher., (ME), Vice-Chair*

*Robert E. Beal, Executive*

*Vision: Sustainably Managing Atlantic Coastal Fisheries*

## MEMORANDUM

January 24, 2018

TO: Commissioners; Proxies; American Eel Management Board; American Lobster Management Board; Atlantic Herring Section; Atlantic Menhaden Management Board; Atlantic Striped Bass Management Board; Executive Committee; ISFMP Policy Board; South Atlantic State/Federal Fisheries Management Board; Summer Flounder, Scup, and Black Sea Bass Management Board; Weakfish Management Board; Winter Flounder Management Board

FROM: Robert E. Beal *REB*  
Executive Director

RE: ASMFC Winter Meeting: February 6 – 8, 2018 (TA 18-039)

The Atlantic States Marine Fisheries Commission's Winter Meeting will be February 6 – 8, 2018 at **The Westin Crystal City** (Telephone: 703.486.1111), located at 1800 Jefferson Davis Highway, Arlington, VA. Meeting materials are available on the Commission website at <http://www.asmfc.org/home/2018-winter-meeting>. Supplemental materials will be posted to the website on Wednesday, January 31, 2018.

Board meeting proceedings will be broadcast daily via webinar beginning February 6<sup>th</sup> at 9:30 a.m. and continuing daily until the conclusion of the meeting (expected to be 5:00 p.m.) on Thursday, February 8<sup>th</sup>. The webinar will allow registrants to listen to board/section deliberations and view presentations and motions as they occur. No comments or questions will be accepted via the webinar. Should technical difficulties arise while streaming the broadcast the boards/sections will continue their deliberations without interruption. We will attempt to resume the broadcast as soon as possible. Please go to <https://attendee.gotowebinar.com/register/930499486571392769> to register.

We look forward to seeing you at the Winter Meeting. If the staff or I can provide any further assistance to you, please call us at 703.842.0740.

Enclosures: Final Agenda, Hotel Directions, TA 18-039, and Travel Reimbursement Guidelines



## Atlantic States Marine Fisheries Commission

### Winter Meeting

February 6 – 8, 2018

The Westin Crystal City

Arlington, Virginia

### Public Comment Guidelines

With the intent of developing policies in the Commission's procedures for public participation that result in a fair opportunity for public input, the ISFMP Policy Board has approved the following guidelines for use at management board meetings:

**For issues that are not on the agenda**, management boards will continue to provide opportunity to the public to bring matters of concern to the board's attention at the start of each board meeting. Board chairs will use a speaker sign-up list in deciding how to allocate the available time on the agenda (typically 10 minutes) to the number of people who want to speak.

**For topics that are on the agenda**, but have not gone out for public comment, board chairs will provide limited opportunity for comment, taking into account the time allotted on the agenda for the topic. Chairs will have flexibility in deciding how to allocate comment opportunities; this could include hearing one comment in favor and one in opposition until the chair is satisfied further comment will not provide additional insight to the board.

**For agenda action items that have already gone out for public comment**, it is the Policy Board's intent to end the occasional practice of allowing extensive and lengthy public comments. Currently, board chairs have the discretion to decide what public comment to allow in these circumstances.

In addition, the following timeline has been established for the **submission of written comment for issues for which the Commission has NOT established a specific public comment period** (i.e., in response to proposed management action).

1. Comments received 3 weeks prior to the start of a meeting week will be included in the briefing materials.
2. Comments received by 5:00 PM on the Tuesday immediately preceding the scheduled ASMFC Meeting (in this case, the Tuesday deadline will be **January 30, 2018**) will be distributed electronically to Commissioners/Board members prior to the meeting and a limited number of copies will be provided at the meeting.
3. Following the Tuesday, **January 30, 2018 5:00 PM deadline**, the commenter will be responsible for distributing the information to the management board prior to the board meeting or providing enough copies for the management board consideration at the meeting (a minimum of 50 copies).

The submitted comments must clearly indicate the commenter's expectation from the ASMFC staff regarding distribution. As with other public comment, it will be accepted via mail, fax, and email.

## Final Agenda

The agenda is subject to change. The agenda reflects the current estimate of time required for scheduled Board meetings. The Commission may adjust this agenda in accordance with the actual duration of Board meetings. Interested parties should anticipate Boards starting earlier or later than indicated herein.

### Tuesday, February 6

9:30 a.m. – Noon

#### **American Lobster Management Board**

*Member States:* Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia

*Other Members:* NEFMC, NMFS

*Chair:* Train

*Other Participants:* Cloutier, Gwin, Reardon

*Staff:* Ware

1. Welcome/Call to Order (*S. Train*)
2. Board Consent
  - Approval of Agenda
  - Approval of Proceedings from October 2017
3. Public Comment
4. Consider American Lobster Addendum XXVI and Jonah Crab Addendum III for Final Approval  
**Final Action**
  - Review Management Options and Public Comment Summary (*M. Ware*)
  - Reports from the Law Enforcement Committee and Advisory Panels (*M. Robson, E. Gwin*)
  - Consider Final Approval of Addendum XXVI/III
5. Southern New England (SNE) Workgroup Report on Goals and Objectives for SNE Lobster Stock (*M. Ware*) **Possible Action**
6. Review and Consider Approval of 2020 American Lobster Benchmark Stock Assessment and Peer Review Terms of Reference (*J. Kipp*) **Action**
7. Elect Vice-chair **Action**
8. Other Business/Adjourn

1:00 – 2:00 p.m.

**Atlantic Herring Section**

*Member States:* Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey  
*Other Members:* NEFMC (Non-voting)  
*Chair:* Beal (Acting)  
*Other Participants:* Eastman, Zobel  
*Staff:* Ware

1. Welcome/Call to Order (*R. Beal*)
2. Board Consent
  - Approval of Agenda
  - Approval of Proceedings from October 2017
3. Public Comment
4. Elect Chair and Vice-chair (*R. Beal*) **Action**
5. Review Effectiveness of Current Spawning Closure Procedure **Possible Action**
  - Technical Committee Report (*R. Zobel*)
6. Other Business/Adjourn

2:15 – 4:15 p.m.

**Winter Flounder Management Board**

*Member States:* Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey  
*Other Members:* NMFS, USFWS  
*Chair:* Beal (Acting)  
*Other Participants:* Blanchard, Nitschke  
*Staff:* Ware

1. Welcome/Call to Order (*R. Beal*)
2. Board Consent
  - Approval of Agenda
  - Approval of Proceedings from January 2017
3. Public Comment
4. Elect Chair and Vice-chair (*R. Beal*) **Action**
5. Review 2017 Groundfish Operational Stock Assessment for Gulf of Maine and Southern New England/Mid-Atlantic Winter Flounder Stocks (*P. Nitschke*)
6. Discuss Potential Management Response to Operational Assessment **Possible Action**
7. Consider Specifications for the 2018 Fishing Year (*M. Ware*) **Final Action**
8. Consider Approval of 2017 Fishery Management Plan Review and State Compliance Reports (*M. Ware*) **Action**
9. Repopulate the Winter Flounder Advisory Panel (*M. Ware*)
10. Other Business/Adjourn

4:30 – 6: 00 p.m.

### **American Eel Management Board**

*Member States:* Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida

*Other Members:* DC, NMFS, PRFC, USFWS

*Chair:* Gary

*Other Participants:* Cloutier, Wildman

*Staff:* Rootes-Murdy

1. Welcome/Call to Order (*M. Gary*)
2. Board Consent
  - Approval of Agenda
  - Approval of Proceedings from October 2017
3. Public Comment
4. Consider Approval of Draft Addendum V for Public Comment **Action**
  - Presentation of Management Options (*K. Rootes-Murdy*)
  - Stock Assessment Subcommittee Report (*K. Anstead*)
5. Consider Approval of 2017 Fishery Management Plan Review and State Compliance Reports (*K. Rootes-Murdy*) **Action**
6. Advisory Panel Report (*K. Rootes-Murdy*)
7. Elect Vice-chair (*M. Gary*) **Action**
8. Other Business/Adjourn

### **Wednesday, February 7**

8:00 – 9:30 a.m.

### **Executive Committee**

**Breakfast will be served when you arrive; you may arrive as early as 7:30 a.m.** *(A portion of this meeting will be a closed session for Committee members and Commissioners only)*

*Members:* Abbott, Blazer, Brust, Boyles, Jr., Bull, Clark, Estes, Gilmore, Grout, Haymans, Keliher, McNamee, Miller, Miner, Murphey, Pierce, Shiels

*Chair:* Gilmore

*Staff:* Leach

1. Welcome/Call to Order (*J. Gilmore*)
2. Committee Consent
  - Approval of Agenda
  - Approval of Meeting Summary from October 2017
3. Public Comment
4. Atlantic Coastal Cooperative Statistics Program Update (*M. Cahall*)
5. Review Leadership Nominating and Election Process (*R. Beal*) **Possible Action**
6. Review Indirect Cost Rate (*L. Leach*)
7. Review Appeals Process (*R. Beal*)
8. Review Conservation Equivalency Process (*R. Beal*)
9. Other Business/Adjourn

9:45 – 11:15 a.m.

### **Strategic Planning Workshop**

11:30 a.m. – 12:15 p.m. **Weakfish Management Board**

*Member States:* Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida

*Other Members:* NMFS, PRFC, USFWS

*Chair:* O'Reilly

*Other Participants:* Anthony, Levesque, Batsavage

*Staff:* Schmidtke

1. Welcome/Call to Order (*R. O'Reilly*)
2. Board Consent
  - Approval of Agenda
  - Approval of Proceedings from May 2016
3. Public Comment
4. Consider Approval of 2017 Fishery Management Plan Review and State Compliance Reports (*M. Schmidtke*) **Action**
5. Consider the Use of Fishery-independent Samples in Fulfilling Biological Sampling Requirements of the Fishery Management Plan (*M. Schmidtke*) **Possible Action**
6. Discuss Recent Changes in Discards in North Carolina (*C. Batsavage*)
7. Other Business/Adjourn

12:15 – 12:45 p.m. **Lunch Provided for Commissioners, Proxies and Board Members**

12:45 – 2:45 p.m. **South Atlantic State/Federal Fisheries Management Board**

*Member States:* New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida

*Other Members:* PRFC, NMFS, SAFMC, USFWS

*Other Participants:* Jiorle, Lynn, McDonough, Poland, Rickabaugh

*Chair:* Estes

*Staff:* Schmidtke

1. Welcome/Call to Order (*J. Estes*)
2. Board Consent
  - Approval of Agenda
  - Approval of Proceedings from October 2017
3. Public Comment
4. Consider Approval of State Implementation Plans for the Interstate Cobia Fishery Management Plan **Final Action**
  - Technical Committee Report (*S. Poland*)
5. Consider Approval of Draft Addendum I to the Black Drum Fishery Management Plan for Public Comment (*M. Schmidtke*) **Action**
6. Review Technical Committee/Plan Review Team Report on Recommended Updates to the Annual Traffic Light Analyses for Atlantic Croaker and Spot (*C. McDonough*) **Possible Action**
7. Consider Approval of 2017 Fishery Management Plan Review and State Compliance Reports for Spanish Mackerel and Spot (*M. Schmidtke*) **Action**
8. Other Business/Adjourn

3:00 – 4:30 p.m.

### **Atlantic Striped Bass Management Board**

*Member States:* Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina

*Other Members:* DC, NMFS, PRFC, USFWS

*Chair:* Armstrong

*Other Participants:* Blanchard, Lengyel

*Staff:* Appelman

1. Welcome/Call to Order (*M. Armstrong*)
2. Board Consent
  - Approval of Agenda
  - Approval of Proceedings from October 2017
3. Public Comment
4. Review and Consider Maryland Conservation Equivalency Proposal **Final Action**
  - Maryland Conservation Equivalency Proposal Overview (*M. Luisi*)
  - Technical Committee Report (*N. Lengyel*)
  - Law Enforcement Committee Report (*M. Robson*)
  - Advisory Panel Report (*M. Appelman*)
  - Consider Maryland Conservation Equivalency Proposal (*M. Armstrong*)
5. 2018 Benchmark Stock Assessment Progress Update (*K. Drew*)
6. Other Business/Adjourn

### **Thursday, February 8**

8:00 – 10:00 a.m.

### **Risk and Uncertainty Policy Workshop**

1. Welcome and Introductions (*R. Beal, J. Gilmore*)
2. Workshop Objectives and Structure (*J. McNamee*)
3. Instant Response Technology Tutorial
4. Risk and Uncertainty Exercise: Defining Risk and Uncertainty in Striped Bass Management (*J. McNamee*)
5. Commission Risk Policy Status and Next Steps (*J. McNamee*)
6. Adjourn

10:15 a.m. – 1:15 p.m.

**Interstate Fisheries Management Program Policy Board**

*Member States:* Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida

*Other Members:* DC, NMFS, PRFC, USFWS

*Other Participants:* Asaro, Hooker

*Chair:* Gilmore

*Staff:* Kerns

1. Welcome/Call to Order (*J. Gilmore*)
2. Board Consent
  - Approval of Agenda
  - Approval of Proceedings from October 2017
3. Public Comment
4. Update from Executive Committee (*J. Gilmore*)
5. Review and Consider Commonwealth of Virginia Appeal of Amendment 3 to the Atlantic Menhaden Fishery Management Plan (*T. Kerns*) **Final Action**
6. Review and Consider the Climate Change Working Group White Paper (*T. Kerns*) **Final Action**
7. Habitat Committee Report (*L. Havel*) **Final Action**
  - Review and Consider Climate Change Gaps and Recommendations Report
  - Review and Consider Submerged Aquatic Vegetation Policy Report
8. North Atlantic Right Whale 5-Year Review and Re-initiation of Endangered Species Act Section 7 Fishery Biological Opinion (*M. Asaro*)
9. Review and Consider Approval of 2019 American Shad Benchmark Stock Assessment and Peer Review Terms of Reference (*J. Kipp*) **Action**
10. Bureau of Ocean Energy Management Update Regarding Renewable Lease Status and Future Leasing (*B. Hooker*)
11. Other Business/Adjourn

Noon – 12:20 p.m.

**Lunch Provided for Commissioners, Proxies and Board Members**

1:15 – 1: 30 p.m.

**Business Session**

*Member States:* Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida

*Chair:* Gilmore

*Staff:* Beal

1. Welcome/Introductions (*J. Gilmore*)
2. Board Consent
  - Approval of Agenda
  - Approval of Proceedings from October and November 2017
3. Public Comment
4. Review Non-compliance Findings, If Necessary
5. Other Business/Adjourn



1:45 – 2:45 p.m.

**Atlantic Menhaden Management Board**

*Member States:* Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida

*Other Members:* NMFS, PRFC, USFWS

*Other Participants:* McNamee, Kersey

*Chair:* Ballou

*Staff:* Appelman

1. Welcome/Call to Order (*R. Ballou*)
2. Board Consent
  - Approval of Agenda
  - Approval of Proceedings from November 2017
3. Public Comment
4. Consider ISFMP Policy Board Recommendation Regarding Commonwealth of Virginia Amendment 3 Appeal, If Necessary (*T. Kerns*) **Final Action**
5. Other Business/Adjourn

3:00 – 5:00 p.m.

**Summer Flounder, Scup, and Black Sea Bass Management Board**

*Member States:* New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina

*Other Members:* NMFS, PRFC, USFWS

*Other Participants:* Wojcik, Snellbaker

*Chair:* Ballou

*Staff:* Starks, Rootes-Murdy

1. Welcome/Call to Order (*B. Ballou*)
2. Board Consent
  - Approval of Agenda
  - Approval of Proceedings from October 2017
3. Public Comment
4. Black Sea Bass Addendum XXX for Final Approval **Final Action**
  - Review Management Options and Public Comment Summary (*C. Starks*)
  - Technical Committee Report (*G. Wojcik*)
  - Advisory Panel Report (*C. Starks*)
  - Consider Final Approval of Addendum XXX
5. Review and Consider Approval of Summer Flounder and Scup Recreational State Proposals for 2018 Measures (*K. Rootes-Murdy*) **Final Action**
  - Technical Committee Report (*G. Wojcik*)
6. Consider Approval of 2017 Scup Fishery Management Plan Review and State Compliance Reports (*K. Rootes-Murdy*) **Action**
7. Elect Vice-chair (*R. Ballou*) **Action**
8. Other Business/Adjourn

# Atlantic States Marine Fisheries Commission

## American Lobster Management Board

*February 6, 2018  
9:30 a.m. – Noon  
Arlington, Virginia*

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

- |                                                                                                                                               |            |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 1. Welcome/Call to Order ( <i>S. Train</i> )                                                                                                  | 9:30 a.m.  |
| 2. Board Consent                                                                                                                              | 9:30 a.m.  |
| • Approval of Agenda                                                                                                                          |            |
| • Approval of Proceedings from October 2017                                                                                                   |            |
| 3. Public Comment                                                                                                                             | 9:35 a.m.  |
| 4. American Lobster Addendum XXVI/Jonah Crab Addendum III for Final Approval <b>Final Action</b>                                              | 9:45 a.m.  |
| • Review Options and Public Comment Summary ( <i>M. Ware</i> )                                                                                |            |
| • Reports from the Law Enforcement Committee and Advisory Panels ( <i>M. Robson, E. Gwin</i> )                                                |            |
| • Consider Final Approval of Addendum XXVI/III                                                                                                |            |
| 5. Southern New England (SNE) Workgroup Report on Goals and Objectives for SNE Lobster Stock ( <i>M. Ware</i> ) <b>Possible Action</b>        | 10:55 a.m. |
| 6. Review and Consider Approval of 2020 American Lobster Stock Assessment and Peer Review Terms of Reference ( <i>J. Kipp</i> ) <b>Action</b> | 11:25 a.m. |
| 7. Elect Vice-Chair ( <i>S. Train</i> ) <b>Action</b>                                                                                         | 11:55 a.m. |
| 8. Other Business/Adjourn                                                                                                                     | 12:00 p.m. |

The meeting will be held at the Westin Crystal City, 1800 Jefferson Davis Highway Arlington, Virginia; 703.486.1111

# MEETING OVERVIEW

## American Lobster Management Board Meeting

**February 6, 2018**

**9:30 a.m. – 12:00 p.m.**

**Arlington, Virginia**

Chair: Stephen Train (ME) Assumed Chairmanship: 02/18	Technical Committee Chair: Kathleen Reardon (ME)	Law Enforcement Committee Representative: Rene Cloutier (ME)
Vice Chair: Vacant	Advisory Panel Chair: Grant Moore (MA - Lobster) Earl Gwin (MD – Jonah)	Previous Board Meeting: October 16, 2017
Voting Members: ME, NH, MA, RI, CT, NY, NJ, DE, MD, VA, NMFS, NEFMC (12 votes)		

### 2. Board Consent

- Approval of Agenda
- Approval of Proceedings from October 2017

**3. Public Comment** – At the beginning of the meeting public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

<b>4. American Lobster Draft Addendum XXVI/Jonah Crab Draft Addendum III (9:45 - 10:55 a.m.) Final Action</b>
<p><b>Background</b></p> <ul style="list-style-type: none"> <li>• Draft Addendum XXVI/III seeks to improve harvester reporting and biological data collection in state and federal waters (<b>Briefing Materials</b>)</li> <li>• Public comment was collected between November and January. Public hearings were conducted in ME, NH, MA, RI, CT, NY and NJ. (<b>Supplemental Materials</b>)</li> <li>• The LEC reviewed the draft addendum on January 8 (<b>Briefing Materials</b>)</li> <li>• The AP reviewed the draft addendum on January 17 (<b>Supplemental Materials</b>)</li> </ul>
<p><b>Presentations</b></p> <ul style="list-style-type: none"> <li>• Review of management options and public comment by M. Ware</li> <li>• LEC and AP reports by M. Robson and E. Gwin</li> </ul>
<p><b>Board actions for consideration at this meeting</b></p> <ul style="list-style-type: none"> <li>• Select management alternatives and implementation date</li> <li>• Approve final document</li> </ul>

**5. SNE Workgroup Report (10:55 – 11:25 a.m.) Possible Action****Background**

- At Annual Meeting, the Board tasked the SNE Workgroup with reviewing the goals and objectives by which the SNE stock is managed.
- The SNE Workgroup met via conference call on January 22.

**Presentations**

- SNE Workgroup report on goals and objectives by M. Ware (**Supplemental Materials**)

**Board actions for consideration at this meeting**

- Consider modifying the goals and objectives by which the SNE stock is managed

**6. Terms of Reference for the 2020 American Lobster Stock Assessment (11:25 – 11:55 a.m.) Action****Background**

- The next American Lobster Benchmark Stock Assessment is scheduled for completion in 2020.
- The TC met in December 2017 to draft Terms of Reference for the assessment.

**Presentations**

- Presentation of Terms of Reference by J. Kipp

**Board actions for consideration at this meeting**

- Approve Terms of Reference for the 2020 Stock Assessment

**7. Elect Vice-Chair (11:55 a.m. -12:00 p.m.) Action****Background**

- David Borden's chairmanship ended November 2017.
- Stephen Train is the new Chair, leaving the Vice-Chair seat vacant.

**Board actions for consideration at this meeting**

- Elect Vice-Chair

**8. Other Business/Adjourn**

## American Lobster and Jonah Crab TC Task List

Activity level: High

Committee Overlap Score: Low

### Committee Task List

#### *Lobster TC*

- Conduct analysis to evaluate results of changes to the lobster minimum and maximum gauge size for Addendum XXVII (aiming to be completed in spring 2018)
- 2020 Benchmark Stock Assessment
  - Initial data deadline and write-up of VTS protocol– April 2018
  - Data Workshop and associated webinars May 2018
- Annual state compliance reports are due August 1

#### *Jonah Crab TC*

- Annual state compliance reports are due August 1

#### *TC Members*

American Lobster: Kathleen Reardon (ME, TC Chair), Joshua Carloni (NH), Chad Power (NJ), Colleen Giannini (CT), Jeff Kipp (ASMFC), Kim McKown (NY), Conor McManus (RI), Tracy Pugh (MA), Burton Shank (NOAA), Megan Ware (ASMFC), Angel Willey (MD)

Jonah Crab: Derek Perry (MA, TC Chair), Joshua Carloni (NH), Chad Power (NJ), Jeff Kipp (ASMFC), Conor McManus (RI), Allison Murphy (NOAA), Kathleen Reardon (ME), Burton Shank (NOAA), Jeffrey Shields (VA), Megan Ware (ASMFC), Craig Weedon (MD)

#### *SAS Members*

American Lobster: Kim McKown (NY, SAS Chair), Joshua Carloni (NH), Larry Jacobson (NOAA), Jeff Kipp (ASMFC), Conor McManus (RI), Tracy Pugh (MA), Kathleen Reardon (ME), Burton Shank (NOAA), Megan Ware (ASMFC)

Jonah Crab: None

**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
AMERICAN LOBSTER MANAGEMENT BOARD**

**The Marriott Norfolk Waterside  
Norfolk, Virginia  
October 16, 2017**

These minutes are draft and subject to approval by the American Lobster Management Board.  
The Board will review the minutes during its next meeting.

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These minutes are draft and subject to approval by the American Lobster Management Board.  
The Board will review the minutes during its next meeting.

**INDEX OF MOTIONS**

1. **Approval of Agenda by Consent** (Page 1).
2. **Move to add sub option under issue 1, option c, to allow commercial harvesters with less than a 1,000 pounds of lobster landings in the previous year to report monthly summarized data instead of trip level data** (Page 19). Motion by Doug Grout; second by Pat Keliher. Motion carried (Page 20).
3. **Move to approve Lobster Draft Addendum XXVI/Jonah Crab Draft Addendum III for public comment as amended today** (Page 20). Motion by Pat Keliher; second by Dennis Abbott. Motion carried (Page 21).
4. **Tabled Motion from August 2017:**  
**Move to (1), allow LCMA 4 fishermen the ability to continue fishing fixed lobster gear for other legal species, such as Jonah crab, during the closed period and (2), exempt closed seasons from the most restrictive rule; as currently defined by the feds.**

**Motion to Substitute**

**Move to substitute to: (1) LCMA 4 states (New Jersey and New York) will work with representatives from NOAA Fisheries to develop conservation equivalent alternatives for the current LCMA 4 season closure. We request that the Technical Committee review the alternative management measures to assure that the conservation goals of Addendum XVII are met; and (2) The LCMA 4 seasonal closure relates only to LCMA 4. Permit holders with an LCMA 4 designation in another Lobster Management Area designation on their lobster permits would not have to similarly remove their lobster gear from the other designated management areas during the LCMA 4 closed season. This also applies to seasonal closures in other LCMAs** (Page 21). Motion by Jim Gilmore; second by Tom Baum. Motion carried (Page 22).

**Main Motion as Substituted:**

**1 – LCMA 4 States (New Jersey and New York) will work with representatives from NOAA Fisheries to develop conservation equivalent alternatives for the current LCMA 4 season closure. We request that the Technical Committee review the alternative management measures to assure that the conservation goals of Addendum XVII are met.**

**2 - The LCMA 4 seasonal closure relates only to LCMA 4. Permit holders with an LCMA 4 designation and another Lobster Management Area designation on their lobster permit would not have to similarly remove their lobster gear from the other designated management areas during the LCMA 4 closed season. This also applies to seasonal closures in other LCMAs.**

5. **Move to approve the 2017 Lobster FMP Review, state compliance reports, and *de minimis* status for DE, MD, and VA** (Page 24). Motion by Doug Grout; second by Roy Miller. Motion carried (Page 24).
6. **Move to approve the 2017 Jonah Crab FMP Review, state compliance reports, and *de minimis* status for CT, DE, MD, and VA.** (Page 25). Motion by Mark Alexander; second by Jim Gilmore. Motion carried (Page 25).
7. **Motion to adjourn by Consent** (Page 27).



**ATTENDANCE**

**Board Members**

Pat Keliher, ME (AA)	Emerson Hasbrouck, NY (GA)
Sen. Brian Langley, ME (LA)	Sen. Phil Boyle, NY (LA)
Douglas Grout, NH (AA)	Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Tom Baum, NJ, proxy for L. Herrighty (AA)
G. Ritchie White, NH (GA)	Tom Fote, NJ (GA)
Raymond Kane, MA (GA)	Roy Miller, DE (GA)
Dan McKiernan, MA, proxy for D. Pierce (AA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
Rep. Sarah Peake, MA (LA)	John Clark, DE, proxy for D. Saveikis (AA)
Jay McNamee, RI, proxy for J. Coit (AA)	Ed O'Brien, MD, proxy for Del. Stein (LA)
David Borden, RI (GA)	Rachel Dean, MD (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Mike Luisi, MD, proxy for D. Blazer (AA)
Sen. Craig Miner, CT (LA)	Joe Cimino, VA, proxy for J. Bull (AA)
Lance Stewart, CT (GA)	Peter Burns, NMFS
Mark Alexander, CT (AA)	
Jim Gilmore, NY (AA)	

**AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

Rene Cloutier, Law Enforcement Representative	Kathleen Reardon, Technical Committee Chair
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**Staff**

Robert Beal	Max Appelman
Toni Kerns	Megan Ware

**Guests**

Terry Stockwell, NEFMC

The American Lobster Management Board of the Atlantic States Marine Fisheries Commission convened in the Hampton Roads Ballroom V of the Marriott Waterside Hotel, Norfolk, Virginia, October 16, 2017, and was called to order at 10:20 o'clock a.m. by Chairman David V. Borden.

### **CALL TO ORDER**

CHAIRMAN DAVID V. BORDEN: Welcome to the Lobster Board meeting, my name is David Borden; I'm the Chairman of the Board, at least for a short period of time.

### **APPROVAL OF AGENDA**

CHAIRMAN BORDEN: We've distributed the agenda. I have a couple of changes to the agenda that have already been suggested. Pat Keliher requested some time under Other Business.

I would like to add an agenda item. I'm also going to comment on Other Business. But I would like to, unless I hear objections, add an item; which is to discuss the potential litigation involving NOAA, in regards to whales, add that after Public Comment. The reason I'm suggesting that we take that after Public Comment.

Some of the discussions on that may have a bearing on what we do on other agenda items; so I think it's important to just get a briefing on it. There won't be any action; it will just be a briefing. I'm going to ask Chip and John Bullard to come to the table please; if you would, to discuss that.

Do I have any other additions or deletions to the agenda as I just described? If not, we'll take that in that order.

### **PUBLIC COMMENT**

CHAIRMAN BORDEN: Did anyone sign up for Public Comment? Nobody signed up. Is there anyone in the audience that would like to

comment on items that are not on the agenda? No hands up.

### **BRIEFING ON POTENTIAL NOAA LAW SUIT**

CHAIRMAN BORDEN: Okay, so we're going to take the first item, which Chip, would you please characterize notice of litigation involving whales if you would, generally characterize it. I realize that the Agency hasn't really started to take action on it, so just to provide insight to the Board on how this might be handled by the Agency, and then I think John can follow you up with more specifics.

MR. CHIP LYNCH: Hey everybody, Chip Lynch; NOAA Office of General Counsel, and I'm out of the Northeast. We are in receipt of the letter David just mentioned. I am having trouble getting into the internet; so I don't have it right in front of me, but I think it is October 2, or something to that affect. We received a letter that informed us of a Notice of an Intention to Sue.

The letter is something that we are still digesting. We are reviewing it. I can tell you that the subject matter of the letter, Recent Right Whale Entanglements and Deaths, are things that we were already aware of. We were working on notwithstanding the letter. It is in a Notice of an Intention to Sue, it doesn't necessarily follow that there will be litigation after it. But it is going through the internal process as we speak.

CHAIRMAN BORDEN: Questions for Chip on the legal process? No hands up. John, do you want to talk a little bit about some of the policy issues?

MR. JOHN BULLARD: Sure, thank you, Mr. Chair. This has not been a good summer for North Atlantic Right Whales. As best we can tell, the current population stands at about 458. This summer we lost about 15; 12 of those were in Canada in the Gulf of St. Lawrence, 3 in the U.S. That is about 3 percent of the population. By anyone's definition that would be a crisis.

We declared a UME in the U.S. that is an unusual mortality event. We have reached out to Canada; and have a joint effort going on with Canada to both increase our understanding of causes and also what actions can be taken. Necropsies have been undertaken of most, I think about seven of the whales recovered in the Gulf of St. Lawrence, most of the deaths blunt trauma associated with ship strikes, some entangled by snow crab gear.

The Canadians have acted very quickly to establish speed restriction zones. They've enforced penalties on vessels exceeding the limits in those zones; including one of their Coast Guard vessels. They've also very quickly by our standards, imposed restrictions closing snow crab seasons. They are very aware that they don't have much time before their spring season.

We have made a couple of messages very clear to the Canadians. One is that this is a crisis. Second that we think it's best that we approach this jointly. We've explained that the way we have operated, we think successfully in the United States, is through the Take Reduction Team Process, where we work with industry and learn what science has to tell us; and then negotiate with industry what should be done.

I've explained to the Canadians that if two things happen, industry will step forward and make significant steps. The significant steps have been the removal of 30,000 linear miles of line from the paths of whales; and an increase from about 5,000 square miles to 25,000 square miles of protected areas. Those are significant achievements negotiated through the Take Reduction Team Process.

The two conditions that I've mentioned to the Canadians that need to be fulfilled are first a scientifically proven causal relationship between mortality of whales and behavior by industry; whether it's shipping industry or fishing industry. The second is a fair contribution by the industry.

I've said that that fair contribution needs to be determined whether it's fair in comparison of lobster industry versus shipping industry, or fair the U.S. industry versus Canadian industry. But if you can determine both of those things; that is a causal relationship and a fair contribution, it's my belief that industry will step up to the plate.

The forum in the United States is the Take Reduction Team. The Canadians realize that up until now there have been very few restrictions on Canadian industry; so that it would be very hard to go to the U.S. industry and ask for further, let's say contributions. But that is understandable, because it's only recently that the whales have moved north in search of food.

I think Mr. Chair that one thing I would say is this is a crisis. The steps that the industry is taking to date that I've just summarized if the world were fair, would have continued to lead to the slow population growth that we experienced over the last ten years, up until about three or four years ago. But over the last three, four, five years this population has unfortunately been in decline; and then we've had this disaster this past summer. I think, and I'll wrap it up; that Canada recognizes there is a crisis on its hand.

Canada is in the process of taking quick and commensurate actions. I think that more is going to be required of us as well; and that what form that will take I'm not sure. Whether it's removal of more vertical lines, or whether it will take the form of looking at the strength of the lines that are already in the water.

But I think the best way that worked for us is through the TRT process; relying on the wisdom of the industry. As this is the Lobster Board, I'm talking about the lobster industry. But I don't want to leave shipping out either. Unless there are questions, thank you, Mr. Chair.

CHAIRMAN BORDEN: Questions for John; anyone. Pat.

MR. PATRICK C. KELIHER: Thank you, John. Can you just remind me? Has Canada reengaged with the disentanglement team? They obviously had a tragedy there with the loss of a fisherman trying to disentangle a whale. I know they suspended activities, as we did, for a time. But did they restart those activities?

MR. BULLARD: Yes. Joe Howlett was tragically lost successfully disentangling a whale in July; to my knowledge. They have restarted the disentanglement of all whales; except right whales. I don't believe they have restarted the right whale disentanglement.

I would also say that Minister Dominic LeBlanc, who is the Canadian Minister of Fisheries, is meeting with industry in Monkton, New Brunswick, November, 9, to engage with both their shipping industry and their fishing industry. I've spoken to him; and I know he takes a personal interest in this that is very strong. He is very aware of the need for quick action. I think they will be engaging with both the shipping and fishing industries very quickly.

CHAIRMAN BORDEN: Anyone else? No hands up, okay thank you very much, Gentlemen. We'll get back on the agenda.

#### **SOUTHERN NEW ENGLAND LOBSTER WORKING GROUP**

CHAIRMAN BORDEN: We're going to deal with the Southern New England Lobster Working Group recommendations or report in the document. As you recall at the last meeting the Board approved the measures; but in the final action did not approve the addendum. The Board basically formed a subcommittee, and you've got a whole series of recommendations, and we'll go through that in a systematic way. I would like Megan to introduce the issue, please.

#### **REPORT ON FUTURE MANAGEMENT OF THE STOCK**

MS. MEGAN WARE: As was mentioned at the August Board meeting, the Board did not approve Addendum XXV for management use; and instead the Board created a workgroup to discuss future management of the stock, particularly in light of climate change. That Work Group met via conference call on September 15. Members included Commissioners, TC members, federal representatives, and industry members.

Together the Work Group has recommended five things for Board consideration today; and I'll be going through those five recommendations. The first is to not reconsider Draft Addendum XXV. Based on the August Board meeting it is clear that there are disparate views on the Board regarding this Addendum. This was shown not only through the extensive voting, but also the comments that asked about the efficacy of the LCMT proposals and the need for action. We had some Commissioners who felt the addendum did not go far enough; while others thought the action was not needed. Given a two-thirds majority vote from the prevailing side is needed to reconsider the addendum, the Work Group did not feel that this was a viable option for the Board.

The second recommendation is to review the goals and objectives by which we manage the southern New England stock. There has been concern expressed that that southern New England stock may not be able to be rebuilt to historic levels. As a result the goals and objectives may no longer be applicable.

The Work Group is recommending that the Board task a subgroup to review these goals and objectives; and then report back to the Board at a future meeting. The third recommendation is to engage with the Commission's Climate Change Working Group. That workgroup is developing recommendations on ways to manage stocks

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that are either negatively or positively being impacted by warming waters.

The Work Group felt that this might be a good resource for the Board; particularly if there is potential to consider southern New England lobster as a case study. The fourth recommendation is to develop terms of reference for the 2020 stock assessment that specifically consider reference points and environmental drivers.

That new stock assessment does provide an opportunity for the Board to consider new reference points; and in developing terms of reference that tasks the TC to review these issues in the stock assessment process, and may help inform future management of the stock. Then the fifth recommendation is to reduce latent effort in Areas 4, 5, and 6.

Under Addendum XVIII, Areas 2 and 3 are going through a series of trap reductions to scale the size of the fishery to the size of the resource. Similar action was not taken in Areas 4, 5, and 6, resulting in a large amount of latent effort. Some states have over 60 percent latent effort. Reactivation of this latent effort would certainly negatively impact the stock.

The Work Group is recommending that the Board task LCMTs 4, 5, and 6 with developing strategies to reduce latent effort; and then those proposals would be presented to the Board at a future meeting. This strategy not only continues progress on this issue, but it also allows the Plan Development Team an opportunity to work on Addenda XXVI and XXVII, before another management document is initiated.

As a final note, I will say that the Work Group's discussion did focus on Board priorities. As I mentioned, the Board has initiated two other addenda; one to address harvester reporting, and we'll be talking about that later today, and then also an addendum to address resiliency in the Gulf of Maine stock.

Given there is a fixed amount of time for the Plan Development Team and the TC, it is important for the Board to prioritize these tasks. The Work Group felt that both ongoing addenda are extremely important to the Board; and noted that the southern New England stock comprises a very small portion of coastwide landings.

CHAIRMAN BORDEN: All right questions for Megan? Are there any questions on the report? Okay seeing no hands up, let me just offer a couple of suggestions here on process. I think the easiest issues for the Board to deal with in this order are Issue 2, 3, and 4. I think they are pretty straightforward, and then take up 1 and 5. The only reason I'm suggesting that I think the decisions flow better. Do I have any objections to taking those up in that order? No objections.

On Issue Number 2, review the goals and objectives. This comment was made by a number of individuals, and this came up at quite a few of the prior Board deliberations that there may be a disconnect between the current goals and objectives, and those that have been adopted. I just remind everybody that not only do we have kind of overarching goals and objectives; but a lot of times when we do an addendum we have goals and objectives that are specific to the addendum.

If we were to agree with this concept, then my view would be between now and the next meeting we would review all of the goals and objectives that are contained in the lobster document; and formalize a recommendation for Board consideration, which would basically be an action item at the winter meeting.

Now if it requires a revision to a document we could piggyback that on some subsequent addendum; so it wouldn't require an immediate increase in the workload of the staff. I would also repeat, because this is kind of an overarching comment, that the workload, since we've already committed to two what I view as

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high priority addendums, Addendum XXVI and XXVII. This simply, between the PDT, the Technical people and the staff, we don't have the resources to do three addendums in the coming year.

To me it makes sense to kind of take a step back. I think this was one of the recommendations that our Commission Chairman made. Take a step back, look at the goals and objectives, and reformulate those and then bring them back to the Board. Does anyone object to that; would be the first question I would ask? If there are no hands up then what I would say is we'll figure out a process and a subcommittee to work on that. John, please.

MR. JOHN CLARK: Just quickly. I mean we just rejected an addenda; its goal was only to increase egg production by 5 percent. If we can't do that I mean is this just going to be going through an exercise to come up with more goals and objectives that this Board will have difficult passing? I mean it seems that if we can't even increase egg production by 5 percent, there is not a lot we can agree to do, other than what we've already got here.

CHAIRMAN BORDEN: That's a point. But I just reiterate what I said before. I think the merit in this strategy of looking at everything in kind of a holistic way. This is something that the Commission Chairman has engaged all of us with; that we really need to take a step back.

Northern shrimp, southern New England lobsters, there are a whole number of stocks that we really have to come up with a different model on how we're going to manage these things; instead of just being in this kind of driven process, where we're just defining near term goals and objectives. I can see you shaking your head. This is a broader review is what it is. Let me ask the question again. Does anybody object to doing this or want to comment? Dan, you had your hand up.

MR. DANIEL MCKIERNAN: I just wanted to make an observation that when you talk about the holistic management. In some ways we need to play a little bit of catch up, because what has happened in the last five to ten years in southern New England is there has been a shift towards Jonah crabs.

The Jonah Crab Management Plan states that the directed fishery shall be executed or prosecuted by the lobster fleet. It's really time to sort of recognize that this is a fishery that is shifting onto those two species; and to come up with ways that we can tease out some of the data going forward.

But we need to recognize that. For reasons that I don't think were appropriate, we tend to treat these two species separately; yet if you're a fishermen fishing out of New Bedford, or some of the Rhode Island ports bringing in lobsters, chances are you're bringing in more income from Jonah crabs. It's time in these exercises to actually bring those together.

CHAIRMAN BORDEN: Let me ask the question again. Does anyone object to this task? If not, then I'll work with the staff. We'll pick out a small subcommittee to work on it. If you want to volunteer for that we love volunteers. You won't be shot if you step forward. There are a couple of hands up. But we'll work on that. We'll have subcommittee meetings, and we'll bring you a written recommendation. Ritchie.

MR. G. RITCHIE WHITE: My hand was not a volunteer.

CHAIRMAN BORDEN: No, I didn't think it was your hand. I thought it was Dennis's hand that went up.

MR. WHITE: I think it would be important in the subgroup to have Technical Committee representation. I think that there is going to be a need of an evolution within technical committees listening to what we just listened to. I saw in the Northern Shrimp Technical

Committee, reluctance to move away from the maintaining recovery and rebuilding.

I can see that it's hard for a technical committee to not have that as a goal. I think that the Technical Committee as well as the rest of us, I mean this is all new and we're coming into this. I think that they are a part of any of these discussions on any of these species I think is very important.

CHAIRMAN BORDEN: Anyone else to this point? Okay so we'll handle it in that manner; and what we'll do is we'll solicit. If somebody wants to participate in it we'll get, I like Ritchie's suggestion. We did that I would point out with the Georges Bank/Gulf of Maine Subcommittee. We did a combination of technical people.

It's really interesting to see the dynamics of putting some of the technical people right next to their bosses, and watching them disagree. We'll do that. We'll handle Number 2 in that manner, and we'll put this into a memo so everybody understands the exact process. Okay, Number 3 I think is fairly direct.

The Chair created this Climate Change Working Group. The group has been meeting, formalizing recommendations. We're all going to be briefed on those sorts of discussions as they go along. I'm not sure that we need any further action on it; other than to keep ourselves integrated into that process. Doug, do you want to speak to that?

MR. DOUGLAS E. GROUT: Yes, we have a document that we're going to give you an overview of at the Policy Board meeting; where we have a variety of recommendations, sort of a list of options that boards could use to adapt management, and also the science to changes in the resource due to environmental changes.

The intent is to give you sort of an overview of it, give you a chance to think about it, and then at the February Commission meeting, hopefully the Commission will adopt that as a policy

guidance that they can give to the boards to use, if they find their species being impacted by changing environmental conditions.

CHAIRMAN BORDEN: All right, any questions for Doug on his statement? This is ongoing and we'll have further discussion on it at the winter meeting; anything else on that issue? The next item is this issue of the terms of reference for the stock assessment. This is something we routinely do. There is nothing new here.

I spoke to Bob and Toni before the meeting. Basically, what they would propose on this is the staff will develop terms of reference for us to consider; and then circulate those to a broad group of the Board, and ask for comments. Everyone will be solicited, and then they will consolidate those comments and give us a presentation at the winter meeting.

Are there any objections to that? Okay, now we get on to the more difficult issues. Number one is the issue of not reconsidering. Since I chaired the subcommittee, I would just comment and this is repetitive, but one of the major issues that the subcommittee tried to grasp is the workload issue. If you look at what was contained in Addendum XXV, and where we end up.

In other words, if you compare full adoption of Addendum XXV, according to the measures that we approved, and not taking action on Addendum XXV. There are differences, but they're not significant differences. This was pointed out by a couple of Board members at the last meeting. John just offered a comment on the 5 percent.

In terms of Area 3, the proposal was basically to cut traps by continue the cut in traps. I would note, going back to the whale discussion that that has to be kind of a critical issue in our whale deliberations. If you cut traps, you're going to cut vertical lines. Last year, if you look at the compliance report, with the combined efforts of NOAA and the Commission, the

Board, we've eliminated 15,000 traps in Area 2 and 3.

That is a significant decline. That area, I would point out, contributes about 70 percent of the landings to the southern New England stock. In the area that most of the landings are coming from, there is this ongoing program that if you look at Area 3 from the start of the trap cuts until now, we'll end up with more than a 50 percent cut in traps in Area 2 that will be a 50 percent cut in traps.

The one downside of not taking action on Addendum XXV, related to Areas 4, 5, and 6. But they are really minor, and I don't mean this is a disparaging manner. They're really minor players, in terms of the stock. I would also emphasize that southern New England, if you look at just the lobster stock and what we manage collectively, the southern New England lobster stock right now contributes 2 percent, 2 to the landings that we manage. We all have to put that in context of workload and other things. Let me ask the question. Although I invested a lot and Megan invested a lot of personal time in getting that addendum to the state that it got.

I think it's a rational decision to just move away from it, and focus on Addendum XXVI and XXVII, which I view as higher priorities. But I am going to defer to the Board. If anybody disagrees, and they think we should reconsider that addendum, now is the time to speak. Is there anybody at the table that thinks we should reconsider the addendum? No hands up; anyone in the audience? No hands up.

Is there any further action that's required here? The addendum, we're just going to move away from it. Last item, part of the charge, and Megan spoke to this. Part of the charge going back to addendum XVIII was for Areas 4, 5, and 6 to eventually deal with the issue of latent effort and excess effort now. It was kind of in the context of right sizing the industry for the reduced size of the resource.

I think that was the language that we used in the addendum. The last time we discussed Addendum XXV, we heard a couple of suggestions. One I think was from a representative of Connecticut delegation, and another I think from the New York delegation that there was still a continuing need to reevaluate this, and possibly formalize some strategies for dealing with the issue.

My suggestion on how to deal with that is rather than do this from the top down, what I would propose is that we basically engage as the Working Group recommends, engage the LCMTs in those states to meet with their participants; and have them give us recommendations on how that should be done.

It's a charge that we have deferred action on for some time; it's probably overdue, and then report at the next meeting on what they think are appropriate strategies. If they do that then the Board would be in a position to decide whether or not they wanted to pursue some of those in a subsequent addendum.

But there wouldn't be any immediate action. This would be nothing more than a review by those states. Do you have a problem? Look at your latent problem. Talk to your industry, and come back to us with a range of alternatives that the Board could consider. Are there comments to that; any objections? Pete Burns.

MR. PETER BURNS: I think this is a good approach to allow 4, 5, and 6 to take a look at their latent effort and see what can be done to maybe tailor that down a little bit. We know that Area 2 and Area 3 have done a lot with trap reductions over the years; and they're still going through their scheduled trap reductions.

We at NOAA Fisheries are looking at the Addenda XXI and XXII trap cap reductions and things that could potentially help with reducing effort in the offshore fishery. But I was wondering if it might be worthwhile to really

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add Area 2 and Area 3 to this list. Even though we know that they've done some things already to reduce traps. If we're going to do a wholesale inventory of how many traps are out there and what the fishery should look like, it might be worthwhile. Even if this is just going to be a review to see what potential options might be available, whether it would be worthwhile to add Area 2 and 3 to the discussion. I think that might be a good way forward.

CHAIRMAN BORDEN: Comments on that any objections to that? No objections. I would also point out. If there are no objections to doing this, then it's basically a task for the states to work on with their LCMTs. I would also just point out, given the discussion we started out with today, by Chip and John on whales.

It might be a good idea for some of the other areas to engage with their LCMTs, and talk about ideas and strategies that could be used to reduce effort and reduce vertical lines in some of the other areas. I know some areas, for instance, and I'll use Massachusetts as the example, have basically banned vertical lines when the whales are there.

Some of the states have taken kind of extreme actions on this; but there may be other strategies that we could consider to accelerate that dialogue that will eventually end up with the TRT. Are there any comments on broadening this review? Does anyone think that's an inappropriate or an appropriate strategy? Doug, do you want to speak to this?

MR. GROUT: No, I would agree that I think we should broaden it, to try and get out ahead on this.

CHAIRMAN BORDEN: Okay, any objections to doing that? If not then all the areas have the same task then. We'll see where this goes when we get the reports by the areas. From my perspective the industry has been fairly creative, and willing to come up with useful

strategies. I think it's a good opportunity for us to listen to them again. Is there any further business on southern New England?

#### **LOBSTER DRAFT ADDENDUM XXVI/JONAH CRAB III FOR PUBLIC COMMENT**

CHAIRMAN BORDEN: The next issue is the data collection addendum, which is XXVI. This has been something that has been sorely needed. The technical people, the PDT members have pointed out to us repeatedly that there are deficiencies in the data collection program; and the Technical Committee has done, in my view, an excellent job of pointing those deficiencies out. The first thing I think we're going to hear here is a report by Megan, Kathleen first, and then we'll get into a discussion of the addendum. Kathleen.

#### **TECHNICAL COMMITTEE REPORT ON HARVESTER REPORTING AND BIOLOGICAL SAMPLING**

MS. KATHLEEN REARDON: For Addendum XXVI, the TC was given two tasks. The first task was to evaluate harvester reporting. As part of this task we were asked to assess if the current minimum 10 percent harvester reporting level is statistically valid. We looked at the benefits and potential improvement of precision, with higher percentage of reporting.

Then we make recommendations that could improve harvester reporting. For the second task we looked at fishery dependent bio sample collection efforts. We were asked to identify gaps in the current monitoring programs, and make recommendations to improve fishery dependent bio sampling.

Back in 2007, Addendum X determined the reporting requirements for the lobster fishery. Since 2008, all states collect 100 percent trip level data from dealers. For harvester reporting all states except Maine, require 100 percent reporting, while Maine has 10 percent coverage. In Maine the 10 percent random selection is stratified by lobster zone and license class, so it is not just a straight 10 percent of all

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licenses. License class is based on crew number and age; and tends to be a proxy for the size of business. The reports are submitted in paper form. The question of the 10 percent harvester reporting in Maine is important; because this fleet makes up the bulk of the U.S. lobster fishery, yet has the lowest percentage of reporting.

Maine harvests 80 percent of the total U.S. landings; with almost 6,000 commercial licenses, and more than 265,000 trips a year. Each year the Harvester Logbook Program selects 650 to 700 licenses to report; and the program enters about 30,000 records. There are a high proportion of licenses without landings, or latency in some license classes.

Back in 2007, to determine a minimum harvester reporting level, the TC used the available Connecticut 1997 logbook dataset as a proxy; because it provided 100 percent of the data on the state's fishery with reported landings and trap hauls. Connecticut had a much smaller fishery, with a couple hundred permits; while Maine's fishery was a couple thousand licenses.

The previous analyses bootstrap that Connecticut data at 2 percent increments to assess the coefficient of variance or CV, at different sampling levels to provide the curve shown. A CV is a measure of variability from the mean, and can be used to determine the precision of results. A lower CV means less variation and greater statistical confidence.

Using the Connecticut data, the TC recommended sampling at 30 percent in 2007 to achieve an estimated 20 percent CV; but the Board ultimately required a minimum 10 percent reporting level in Addendum X that could achieve an estimated 30 percent CV, with expectation that sometime in the future 100 percent reporting would be required.

Now, ten years later, we have available state data with 100 percent coverage. It provides a

useful check on the previous analysis and our current results. This figure shows the CVs for total annual landings by license at increasing levels of sampling from 2 to 50 percent for three states. The original 1997 Connecticut data in black, Massachusetts Area 1, 2015 data in blue, and Maine's 2015 data from the 100 percent dealer reporting dataset in red.

This is a useful figure to show how the difference in sample size can impact the CVs, where Connecticut has the highest CV with just over 400 license holders, and Maine has the lowest CV with nearly 6,000 license holders. Massachusetts falls in between. To assess the validity of Maine's 10 percent harvester logbook coverage, the TC looked at multiple effort metrics, including total annual trips, trap hauls, total soak nights, max traps, total annual landings, and average traps per day.

We calculated the CVs for all of these metrics across years from the 10 percent reporting in Maine; and found that the CVs tended to be low and stable across all six variables. The TC was surprised by how low these values were, with only 10 percent reporting. CV for landings was highest being just below 5 percent, with trap hauls and soak nights averaging around or under 4 percent.

The number of trips averaged around 3 percent. CVs for average number of traps and max number of traps were both below 3 percent, and declined across the time series. These low values provide evidence of precision in the dataset. When the metrics were calculated for each license type, the CVs were higher. But the three license classes that dominated the fishery, LC-1, LC-2, and LC-3, had the CVs at 10 percent or lower. The license types with higher CVs had fewer permit holders for a higher variability in fishing status. Overall this analysis suggests that 10 percent harvester reporting is producing a sufficiently precise representation of the Maine fishery.

To put these numbers into context of other states, we can look at the CVs calculated at different sampling levels for trap hauls, from Massachusetts in Area 1, in 2015 and Connecticut in 1997. The CV at 10 percent in Maine is less than both states at even 50 percent. This again is due to the large sample size and the scale of the Maine fishery.

Maine's 10 percent includes more licenses than most other state's active licenses. We further examined the accuracy and precision of the current harvester reporting, by comparing estimates of total landing, scaled up from harvester data to dealer landings. This assumes that the dealer data represents the true value in the population.

Using the harvester data, we calculated the total landings and 95 percent confidence intervals for each year, and plotted them against the total landings by years reported in the dealer data. Again, to the TCs surprise, the two datasets compare admirably well; most mean harvester-based landings estimates being at slightly at or slightly below the total dealer landings.

Harvester confidence intervals were about 10 percent of the mean estimate. Only in 2009 did that estimate for harvester landings not fall on the line with the confidence intervals. Also the other thing that was noted was that the harvester landings were able to track the increase from 2008 to 2015.

Next the TC evaluated potential benefits of increasing the percentage of harvester reporting in the Maine lobster fishery, particularly looking at the resulting CVs. TC examined the effect of increasing the percentage of harvester reporting from 10 percent through 50 percent in 10 percent intervals through bootstrapping the CVs for trap hauls from the Maine Harvester Logbook data.

Increasing sampling effort decreased trap haul CVs from around 3.5 percent at 10 percent

proportional reporting, to 1.2 percent at 50 percent proportional reporting. TC found consensus that with already low CVs at 10 percent, increasing reporting levels provides marginal benefit and a potential high cost with current paper logbook methods.

With marginal statistical benefit for increasing the reporting between 10 and 100 percent, the TC suggests that resources could be better spent developing approaches to electronic reporting that could make 100 percent coverage feasible and efficient, than by increasing the coverage using current methods.

The next question the TC tackled was if we could improve the sampling efficiency using the current expended resources. First we had to evaluate the appropriate stratification factors. We used generalized linear models to determine significant factors that explained deviance in the models, and found that license class and status were most important.

Surprisingly, zone or the spatial coverage across the state was relatively unimportant for explaining variance in metrics. One problem with harvester reporting stratified by license class is that many licenses are not actively fished in the given year; and thus a portion of the harvester reporting resources are being assigned to such latent licenses. Sampling of latent licenses occurs, because vessels are selected for reporting in the coming year based on the license type they purchased in the previous year, thus incurring a two-year lag between the basis for selection and actual reporting.

We looked at the patterns of latent licenses. We found that annually about 25 percent are latent and that is stable over time. But the status in the selection year cannot always predict the activity in the reporting year. A certain proportion of each license class and status change between active and latent between their selection and reporting year, and it was different for different license classes.

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I know you can't really read the axes on here. To give you an example, on average for LC-3 licenses, those are the biggest businesses that were latent in the selection year, 50 percent became active in their reporting year two years later. For LC-1, they had less than 25 percent activation; so it is different for different license classes.

With the knowledge of the important factors of license type and activity status, we can improve sampling efficiency and precision of the harvester reporting program in Maine with current resources, or can we do that? With the large number of latent permits being sampled, particularly for LC-1, we determined that efficiency in harvester reporting could be gained by taking a vessel's history of status, active or latent, into account when selecting vessels for coming years.

To address the different patterns within the stratification, using license class and status, we explored an optimal allocation approach rather than a proportional one. We created a function that balances the variability, the cost, and population size within each strata, and calculated an optimal allocation for each effort metric.

This could decrease the number of vessels required to report, but it would increase the amount of useful data from the active portion of the fishery. This is the allocation for each metric, with the average traps landings, max traps, total soak nights, trap hauls, and trips. Just following the trends in these figures, there was more allocation for the active LC-2 and LC-3.

We chose to focus on the metric of total annual trap hauls to optimize the allocation for the dataset. Using trap hauls as their optimizing metric, the optimal approach fine tunes the CVs from 10 to 50 percent, again with the marginal statistical benefit for increasing the reporting higher than 10 percent.

In discussion, the TC strongly supports the future goal of 100 percent harvester coverage through electronic reporting. A hundred percent harvester reporting could produce a more perfect dataset of actual trap hauls and a spatial extent of the fishery, to better answer the spatially specific management questions.

That said the current 10 percent reporting program is statistically valid for Maine; because of the large scale of the fishery. There is marginal benefit of increasing coverage between 10 and 100 percent, considering the size of the fleet and the high cost of submitting on paper reports in the associated data entry. Until electronic reporting is developed, the current proportional method can be fine tuned using an optimized sampling approach. This recommendation would focus the program on active permits; while still accounting for the unpredictable, latent effort to characterize the whole fishery. If adopted, optimized sampling levels should be revisited every three years, until 100 percent is achieved, because the CVs could be impacted by changes in operational fleet dynamics like trap hauls, population size within each strata, or generally the scale of the fishery.

Moving on to the second task, the TC evaluated the current fishery dependent bio sampling programs. Sources of these data are the state programs, NOAA Fisheries, including the standardized bycatch reduction methodology or SBRM, and the Commercial Fisheries Research Foundation or CFRF.

The TC depends on bio sampling data to provide sex ratios, and length compositions to characterize each area for the stock assessment. Fishery dependent programs can be port or sea sampling. Sea sampling is typically preferred, because it includes data on both the harvested and discarded portions of the catch; while port sampling often is the most feasible, because it is land based, but only

provides information about the harvested catch.

In the past the TC has applied a standard of requiring at least three samples from each statistical area, quarter and year to have adequate coverage. The problem is that historically regions of the lobster fishery have not achieved this minimum sampling standard, leading to gaps in the bio sample data, especially offshore, in southern New England, and in the winter months.

Past stock assessments have required gap filling or borrowing data from adjacent statistical areas, quarters, or years; increasing uncertainty in the models and results. Sea sampling is preferred, but as I said logistically difficult offshore and during the winter; and can be costly compared to port sampling.

The TC evaluated the available data in 2015, and '16. I have to apologize here. Some of the maps in your briefing materials are incorrect, and need to be revised. Megan tells me these will be corrected in the final meeting documents that will be posted online. But these maps are correct. This figure shows maps of the statistical areas where the stock assessment uses data.

Each window is a quarter from summer, fall, winter, and spring; and the white areas are ones where we have the standard three samples per statistical area and quarter in both of the past two years. The areas with color are where we are missing the standard three samples, and the color scale indicates the level of landings in thousands of pounds for each area.

Warmer colors are more landings that are unrepresented in the bio samples. As expected, the best available coverage comes with a combined port and sea sampling from all sources. The inshore areas are well covered by existing, mostly state programs. But there are a number of offshore and southern New England

statistical areas with data gaps; especially in the winter.

Because of the importance of characterizing the discarded portion of the catch, we also looked at the available sea sampling only data, and found the coverage decreases further in some offshore areas. In the past two years we actually had more sampling effort than available previously, because of NOAAs SBRM program increasing the priority to look at bycatch in the lobster fishery. They increased their number of trips, and the Commercial Fisheries Research Foundation, collaborating with fishermen to collect data. Both of these programs are highly dependent on funding, in such that the SBRM did a large amount of sampling in 2015, and almost none in 2016. Without these efforts the offshore areas have very little coverage, as you can see in the right figure. It's almost all colored.

Considering the importance of the lobster fishery in the U.S. and continued area-specific-management questions, the TC continues to advocate for a greater priority in fisheries dependent sampling funding, to achieve the minimum three samples for each statistical area and quarter per year, especially for landings of high landings to reduce uncertainty in the stock assessment. Sea sampling data is preferred, but port sampling is acceptable if nothing else is available.

We recommend that NOAA Fisheries implement a lobster bio sampling program that increases coverage offshore. This program should be independent of SBRM, stratified by statistical area, and coordinated with other state and federal programs to avoid overlap and increase efficiency. The TC also recommends reevaluation of these priorities within the assessment process, to accommodate changes in the fishery and landings patterns. Thank you, I welcome any questions.

CHAIRMAN BORDEN: Questions for Kathleen, any questions? Pat.

MR. KELIHER: In deference to my good friend, Dan McKiernan and the Commonwealth of Massachusetts, I just want to make sure it's clear that it looks like 10 percent is statistically viable. I am withholding my urge to jump up and start a wave around the room.

CHAIRMAN BORDEN: Dan, would you like to rise to the bait, or the fly I should say?

MR. McKIERNAN: If there is a hat I can eat, I guess I'll eat my hat. I would like to congratulate the state of Maine and the TC for a great presentation. One thing that does strike me though is maybe one of the reasons that the precision is as good as it is, maybe Maine's fishery is a little more homogeneous than maybe people had thought going in.

What strikes me is, while the analysis is great, what is missing is actually a summarization of effort. I think going forward; since the document has demonstrated that there is adequate precision in some of these parameters. It's time to present those parameters. I think all the states should probably be collecting and presenting more precise and comprehensive data on effort, active permits, traps fished and trap hauls; especially now that we're comfortable that Maine's data will actually be valid and statistically accurate. It's really good news.

CHAIRMAN BORDEN: Jay.

MR. JASON McNAMEE: I just wanted to complement the TC; this is a fantastic job, really thorough analysis. You guys did a bang up job. I have two questions for you. I just didn't see it in either of the report. You guys may have done this. You allude to the fact that a lot of those favorable statistical qualities from the Maine sampling program is due to that large sample size.

It usually is the key for good statistics. I wondered, and you sort of showed this. I hope

that sample size stays high forever, just to make sure that's clear. But I wondered; did you guys talk about maybe some criteria where if that sample size decreases, presumably the CVs would decay at some rate. Did you guys talk about some criteria of where that 10 percent might not be valid anymore, like what that sample size needs to stay at? Then I have a second question, Mr. Chair that is somewhat related, once Kathleen answers.

CHAIRMAN BORDEN: Kathleen, do you want to respond to that and then I'll come back to you, Jay for a second question.

MS. REARDON: Yes. The scale of the fishery is something that we discussed a lot. That was one of the reasons for the recommendation to revisit every three years; because of potential change of scale of the fishery, but also we noticed that there were dynamics between the license classes that were shifting over time, even over the period of time that we were evaluating. It is important to look at that over time.

CHAIRMAN BORDEN: Jason.

MR. McNAMEE: That makes a lot of sense. Then just to follow on. The CVs are small, but the fishery is big; and so I wondered if you also investigated, while it might be a small proportional change, did you guys investigate so if it was the high end of that 0.02. Is that a lot of landings to the point where it's impactful potentially to the stock assessment?

The CV represents the uncertainty, so if you were at the high end of that uncertainty, given the magnitude of the fishery, while the proportion is small the magnitude might be high. Is it high enough to have an impact to potentially stock assessment outputs and things like that?

MS. REARDON: I would point to the slide that compares the harvester landings expanded up to the dealer landings; in that it does represent,

if we consider the dealer landings as true, the harvester landings when you expand it and scale it up to the whole fishery, can represent the total.

I think every year except for one fell within the 95 percent confidence interval. I think that we feel pretty confident that especially looking at it that it was able to go with the increase of landings between 2008 and 2015. If it was able to track those increases, just with harvester reports, we feel confident that we would be able to track changes.

CHAIRMAN BORDEN: Are there any questions for Kathleen? Pat.

MR. KELIHER: Kathleen that was a great presentation, aside from my giddiness over the 10 percent. Jay, I'm not going to move for a 5 percent sample size. I do, Mr. Chairman, want to point out that the comment by the TC in regards to the cost benefit of going to 100 percent, and it's still their desire to go to 100 percent reporting.

But electronically is a really important one here, and one that the Board should not just glance over, because I think we have a situation here both from the science perspective, but also from an enforcement perspective that we shouldn't lose sight of. The idea of going in the direction of electronic reporting that can both be from a harvester perspective, a dealer perspective, and from an enforcement perspective, can't be lost. We need to, I think highlight that and have a much higher focus on those items. The paper, going to 100 percent for the state of Maine from a paper exercise was about a half a million dollars a year. Let's try to find a way to reinvest those types of dollars and move forward with a strong electronic component.

CHAIRMAN BORDEN: Is there anyone else? Ray.

MR. RAYMOND W. KANE: Thank you for the great TC report. I make reference to Pat's statement. That was going to be my question. Did the TC put a timeframe on electronic monitoring when they would like to see it, in fact, in play?

MS. REARDON: We did not put a timeline on it. I think we know that Maine is looking at electronic reporting; and the addendum also looks at electronic reporting and trying to push that. It's when it's feasible and can produce accurate reports, I think. But we do not have a timeline.

CHAIRMAN BORDEN: Jay and then Dan.

MR. McNAMEE: Just quick on the tail end of the presentation there. This is probably more of a comment than a question. But I noted in the TCs recommendations on that bio sampling. One of your recommendations was for NOAA to increase some of that sea sampling. I just wanted to make the comment. I think the other thing your presentation showed was the value of that industry collaborative information. That should be a part of that investigation.

I think that might be a cost effective way, maybe that can be expanded as well or in lieu of, probably not in lieu of, but as well. I just didn't want to lose that point. I think that CFRF industry collaborative collected information. Those guys are out there. If they're willing to collect information for us, we should take them up on that offer. I just wanted to make sure we didn't lose that point.

CHAIRMAN BORDEN: Kathleen, to that point.

MS. REARDON: I think that was actually something we looked over. We should have said make sure that there is funding for those industry collaborative efforts; because the data is definitely very useful, and it's collected in a cost efficient way.

MR. MCKIERNAN: I would like to again agree with Pat Keliher about the need to get to that next generation of technology, for purposes of collecting fishery data, and that would be a great outcome. My question to you is, if I were to ask for support to include in future plan review reports, effort statistics. Would it be later in the meeting when we're going to review that report, or would it be now?

#### **MANAGEMENT ISSUES AND ALTERNATIVES**

CHAIRMAN BORDEN: Later. Is there anyone else on this segment of the report? If not we're going to move on to Megan's report.

MS. WARE: I will be reporting on Lobster Draft Addendum XXVI, which is also Jonah Crab Draft Addendum III. This is the first change that I'm going to talk about today. This is now a joint addendum for both species. Given the Jonah Crab Fishery is jointly managed by the Lobster Board, and reporting requirements in the two fisheries do mirror one another, this addendum is proposing changes to the reporting and biological sampling requirements in both the lobster and Jonah crab fisheries. Setting the stage for this addendum, the problems we are trying to address are that current harvester reporting requirements do not provide the level of information needed to respond to outside management issues. While the lobster fishery continues to move offshore, and we have an expanding Jonah crab fishery in federal waters, the majority of our biological sampling is occurring inshore.

Our goals for this addendum are to utilize the latest technology to improve reporting, collect greater effort data, increase the spatial resolution of harvester reporting, and advance the collection of biological data offshore. As a reminder to our timeframe, the Board initiated this addendum in January, and then between February and October the Plan Development Team and the TC completed their components.

We are considering this for approval for public comment today. If it is approved, then our public comment period would be November through January, and the Board would take final action in February. Kathleen touched on this a little bit, but just a reminder of our current reporting requirements.

Under Addendum X it's a minimum of 10 percent harvester reporting, with the expectation of 100 percent reporting over time. Some of the data components that we collect in harvester reports are things like stat area, number of traps hauled, number of traps set, the pounds harvested, and then also the trip length.

There are also biological sampling requirements. Right now there is a sea and/or port sampling requirement. It is supposed to be weighted by area and season, to match the three-year average of commercial catch. However, this volume of sampling well exceeds current state budgets. This has not been something that the states have been achieving.

De minimis states are required to conduct one of the following surveys, either a trawl survey, a ventless trap survey, or a settlement survey. For Jonah crab, many of the requirements mirror those in the lobster fishery; and states were asked to extend their lobster sampling programs to Jonah crab.

Starting off with harvester reporting, there are three main issues that we've come across. I think the largest one is the lack of spatial information that is collected in the fishery. Right now we collect information by statistical area; however, this is too coarse to respond to many management actions, and an example would be the Council's Deep Sea Coral Amendment, which looked at very specific coral regions.

To estimate economic impacts for that coral amendment, information from harvester reports, surveys and industry interviews had to be pieced together to come up with some sort



of economic impact. Another challenge is that not all states are collecting information by LCMA. There can be multiple LCMA's in a single statistical area. It's not always simple to assign landings to a management area.

An example is Area 521 that spans Management Area's 1, 2, 3, and outer Cape Cod. The second deficiency is the lack of information that is being collected on the depth. This is an issue given many management actions, including that coral amendment, as well as the National Monument were considering various options based on depth zones. We did not really have the information on where the fishery is being prosecuted, to answer those questions. Then our third deficiency is not all harvesters are required to report. As Kathleen just talked about, Maine accounts for over 80 percent of lobster harvest; but only has 10 percent harvester reporting. This is largely due to the size of Maine's lobster fishery, which has more trips taken in the lobster fishery than all trips in most states fisheries. Then there is no reporting requirement for lobster, only federal permit holders. Those permit holders are not required to report through VTRs.

Looking at some of the biological sampling deficiencies, while our surveys span a broad length of the coast, most surveys are conducted within 12 miles of shore. This is of concern, given that the majority of landings in southern New England and an increasing portion in Gulf of Maine are coming from that offshore area.

As Kathleen just talked about, the TC has identified data gaps in the fishery by comparing that sea and port sampling effort to the magnitude of landings. The greatest data caps appear to be in Georges Bank and offshore Gulf of Maine, with some in southern New England. Before going through the management alternatives, I do want to note that the Atlantic Large Whale Take Reduction Team has been discussing deficiencies in the collection of fishing effort data.

That data goes into their co-occurrence model, which predicts where gear and whales overlap. That team is considering an annual recall survey; which would be sent to fishermen to collect additional effort data. Some of the information they're interested in collecting is the color of the buoy, the weight of the trap, number of traps per trawl, buoy configuration, buoy line diameter, the weight of anchor lines, and the color of the buoy underside.

This addendum does provide an opportunity to proactively address some of these data concerns. However, the PDT did feel that many of these data components are more specific than what is typically required in a trip level report. Another kind of confounding part of this is that many state level reports are used for multiple species.

We need to think about how those reports would be impacted for other species. I raise this to the Board, to note that there are management alternatives in this document which add some of these data components to trip reports. However, there is not an option which adds all of these data components to a trip report.

There is an ability to collaborate on this issue; and I think that collaboration potential increases with electronic reporting, so that is something that could be discussed down the road. We'll go into the management issues and alternatives. Our first issue asks what the percentage of harvester reporting should be in the lobster fishery.

Option A is status quo. We would maintain that minimum 10 percent reporting requirement, with the expectation of 100 percent reporting over time. States with a higher level of reporting would be required to maintain that higher percentage. Option B, states maintain their current reporting effort.

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If a state is at 100 percent reporting they maintain that percentage. If a state is at less than 100 percent reporting then they maintain that current level of effort; but distribute through an optimal allocation. That's what Kathleen was talking about in the TC report. There is an expectation of 100 percent reporting overtime through the use of electronic reporting for Option B. Then Option C is 100 percent harvester reporting, so all states are required to implement 100 percent reporting, and if a state is not at that percentage right now, it can be phased in over five years. The addendum does highly encourage electronic reporting; and this has been supported both by the PDT and the TC. Some advantages of electronic reporting are that it's a cost effective method to increase the reporting percentage, and it also provides flexibility to collect expanded data elements, and specifically here for that Take Reduction Team that could be important.

The addendum recommends that states use the SAFIS application eTrips or eTrips-Mobile. This can be implemented at little to no cost to states. It is approved by GARFO for EBTRs, and there is a well-established relationship between ACCSP and ASMFC. The addendum does allow states to use a different electronic reporting platform; but it must be API compatible, which basically means that the data can be consolidated with other sources.

If a state was interested in a different platform, then they would submit a proposal to the Board, demonstrating that that platform meets the reporting requirements in this addendum, and can accommodate the scale of the fishery. This is Issue 2, and it's asking what data components that we should be collecting in harvester reports.

Under Option A, it is status quo, so we would continue to collect information on things like the stat area, the number of traps hauled, the number of traps set, the pounds and the trip length. Under Option B we would expand those

data elements; so we would include depth, bait type, which will give us a bit of economic information on this fishery, and soak time.

I will note that states are collecting soak time information now, so Option B would codify that ongoing practice. The Option C specifically is asking about gear configuration elements. Again, this is addressing some of those Take Reduction Team data needs. We would add number of traps per trawl, and number of buoy lines.

I will note that Options B and C are not mutually exclusive, so the Board could choose to implement both Options B and C here. Then Issue 3 asks about the spatial resolution at which we collect data. There are five options here. Option A is status quo. We would continue to collect information by stat area.

Option B is stat area and LCMA. Option C is stat area and distance from shore, so this would provide landings based on inshore, nearshore, and offshore. We define that as 0 to 3 miles, 3 to 12 miles, and greater than 12 miles. Option D is 10 minute squares, and I'll show a figure of what that looks like.

It's going to be a much more specific grid on which we would report. This is our coastline here, and the black lines are the LCMAs. Then Option E is electronic tracking. This is saying that the Board is interested in pursuing electronic tracking. One of the challenges with electronic tracking is that the fishery does cover a wide geographic area, and it is conducted on a wide variety of boats with different capabilities.

We need to identify technologies that meet our data needs; but are also compatible with this range of boats and climates. The PDT did consider VMS; however the Law Enforcement Committee has noted that one of the most important features here is a fast ping rate, so that we can decipher between trap hauling and steaming. The VMS does not have this type of fast ping rate. Under Option E, the first step is a

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one-year pilot program to test electronic tracking devices in the fishery. We will put together a subcommittee comprised of LEC reps, industry members, and Commissioners to design and implement this pilot program. The success of the different technologies would be evaluated based on compliance, ability to determine trap hauling versus steaming, industry feedback, cost per fisherman, and LEC feedback.

Then after that one-year pilot program, the Board can choose to end the program and not pursue electronic tracking, extend the program to potentially test different devices, or pursue the implementation of tracking in the fishery. I will also note that Option E can be chosen with one of the options above. The Board could choose Option B and Option E as an example.

For biological sampling, we'll continue to maintain the requirement that non de minimis states complete either a trawl survey, a ventless trap survey, and/or a settlement survey. However, under this addendum we would set a minimum biological sampling threshold of ten sea or port samples in the lobster and Jonah crab fisheries.

This is hopefully a more realistic baseline for states. It's not representative of the population. If a state comprises more than 10 percent of coastwide landings in either the lobster or Jonah crab fishery, then they would be encouraged to conduct additional sampling trips. For example, if a state accounts for 20 percent of the lobster fishery, then they would conduct 20 sampling trips.

If a state is unable to complete those ten trips, they must notify the Board in the annual compliance report as to why that sampling was not conducted and then future sampling efforts. The final thing I'll note about the addendum here is that there is a much more extensive section that includes recommendations in federal waters.

There are three primary recommendations there. The first is to establish a harvester reporting requirement for lobster only federal permit holders. Again, there is no reporting requirement attached to a federal lobster permit. This could be impeding effective management; as it is unclear where lobster and Jonah crab are being caught, and with what effort.

This is recommending that there be a reporting requirement to the percentage approved by the Board in this addendum or higher in each statistical area. The second recommendation is for the creation of a fixed-gear VTR. Right now there is a single VTR form for all gear types; and that is limiting the amount of data that can be collected specific to fixed gears.

This would allow for greater data to be collected, and also clarify what is really being asked for each gear type. Then the third recommendation is implementation of a targeted lobster sampling program in federal waters. Again, we've seen increased harvest and effort offshore, and so based on the TC report there is a sampling program that is recommended in federal waters; and that is included in Appendix 3 of the Addendum. With that I will take any questions.

CHAIRMAN BORDEN: Questions for Megan. Before I take hands up, I just note that this is kind of the first time you've seen this addendum. There are requirements for states to take additional action, which are going to require more resources. I just urge everybody to factor that into your thinking.

I mean the paths forward from my perspective are, we take action today or amend this in some manner, take actions on it. If there is a desire on the part of the Board members to modify it, we could ask the PDT to modify it and bring it back at the next meeting. The third path forward is to modify it, and do a final approval at the winter meeting. First, let's start with questions. Dan.

MR. MCKIERNAN: Will the proposed reporting system allow the fishermen to delineate target species, for example Jonah versus lobster, even when the trap is the same? To follow on that question, will the reporting system allow a whelk trap or a fish pot to be separated from a lobster or Jonah trap?

CHAIRMAN BORDEN: Megan.

MS. WARE: The addendum does not require, or there is no question that asks, what your targeted species is at this point, as a data component, so we can add that if you're interested. In terms of the other, like a whelk trap, I think that might fall as to what your state's reporting requirements are for the whelk fishery. These would be specific to people with a lobster permit, so if a whelk fisherman had a lobster permit then I think they would be impacted by this, but otherwise not. But I'm not sure how your state permitting works.

CHAIRMAN BORDEN: Anyone else, questions? No hands up, so preference of the Board. Dan.

MR. MCKIERNAN: My question is to Pat Keliher. Given the Maine Fishermen's Forum is usually held at the beginning of March. Would it make sense to have the comment period take place in a window that includes the Forum; in terms of the timing of this?

MR. KELIHER: Megan, what was your window for a comment period?

MS. WARE: If this gets approved today than it would be November through January. I would present those comments at the February Board meeting.

MR. KELIHER: I think for this particular issue, if we were talking about trap reductions I would probably agree with that Dan, but I mean for this particular issue I think we would probably only hold a couple different meetings within the

state of Maine, and doing it in that timeframe works.

CHAIRMAN BORDEN: Toni.

MS. TONI KERNS: I was just going to say you can extend it for as long as you want, and have it open for as long as you want. But with Pat's answer it really doesn't matter.

CHAIRMAN BORDEN: Are there any other questions? Doug.

MR. GROUT: It's not a question. I just had a suggestion for another sub-option to consider whenever you're ready for it, Mr. Chair.

CHAIRMAN BORDEN: Go ahead, please.

MR. GROUT: One of the issues we've dealt with in New Hampshire, is we have a core level of full-time fishermen that are very active in this; and then we have a lot of part timers. We do have a hundred percent mandatory reporting of all our commercial and recreational harvesters. But we don't have it to the trip level, except for these full-time harvesters. The other ones are a monthly summarized reporting system. We're getting the landings but not the specific detail. What I would like to offer is a sub-option for consideration in this addendum. As a sub-option under Option C, if perchance we were to go down the road of 100 percent harvester reporting.

**I would like to move to add a sub-option under Issue 1; Option C that would allow commercial harvesters with less than 1,000 pounds of landings in the previous year to report monthly summarized landing data instead of trip-level data.** I did e-mail this to both Megan and Max, if they have access to their e-mail, if you would like me to read it again.

CHAIRMAN BORDEN: Do we have a second to the motion; seconded by Pat Keliher?

MR. GROUT: Just a follow up if I might Mr. Chair, is what we've found with going down this road is 31 percent of our licensed commercial harvesters report trip level data. That accounts for 94 percent of our total landings; this remaining 69 percent, which are these very part-time people that land less than a thousand pounds per year account for 6 percent of our landings. This has helped us manage, get very high resolution data, trip level data on the fishermen that account for 94 percent of our landings, and then we get the landings data on the remainder of them.

CHAIRMAN BORDEN: Questions or comments on the motion? Eric.

MR. ERIC REID: A thousand pounds of what?

MR. GROUT: Lobsters.

MR. REID: Okay, well it should probably say that because if it's a thousand pounds of everything, you might have a problem.

CHAIRMAN BORDEN: Are there any other comments on it? Dan.

MR. McKIERNAN: Doug, is it your assumption that that thousand pounds of lobsters represents all of the commercial activity of that permit holder, and that there isn't other data that you would want to be collecting on some of the other fishing activities?

MR. GROUT: Explain to me what you mean by other fishing activities, because if they're for example, people that are also gill netting for other species within our waters. That's covered under a different permit.

MR. McKIERNAN: If they're harvesting urchins or scallops, or I don't know the intricacies of your fleets and the levels of activity. But in Massachusetts we could have someone who is almost a full-time-commercial fisherman land less than a thousand pounds of lobsters; but we still want that data collection at trip level.

MR. GROUT: Again, if it goes to other species that's another, if they're federally permitted, clearly they are required to fill out their other species, like if they had a scallop permit they would be required to fish that. If they're fishing exclusively within state waters, we have a harvester report, so they would have to fill out that separately. We do have those covered, and we also have the ability to validate whether they have landed less than a hundred pounds in the previous year, by looking at the dealer data.

CHAIRMAN BORDEN: Pat.

MR. KELIHER: I certainly don't have a problem with adding this to the document. I bumped this off to staff real quick, just to try to get a quick read on it, and one of the comments I got back was that it may to be a two-year lag and not a one-year lag, but I think those are conversations we can have after we get into it. I also believe that the optimized approach may get to this within the document, as a way to look at it. But I do support it going into the document.

CHAIRMAN BORDEN: Any other discussion questions on it? Is there any objection to the motion? **No objection, the motion stands approved by unanimous consent. Okay anything else on this?** What is your preference? Do you want to have a motion to approve this for public hearing process as modified by the discussion today, or do we want to deal with it at the winter meeting? What is the preference? Pat.

**MR. KELIHER: I would move, Mr. Chairman that we move to adopt the Lobster Draft Management Addendum III for public comment as amended.**

CHAIRMAN BORDEN: **As modified by the discussion today.**

MR. KELIHER: **Correct.**

CHAIRMAN BORDEN: Dennis Abbot second, discussion. **Any objections to the motion, no objections the motion stands approved by unanimous consent.** Dan.

MR. McKIERNAN: Megan, my only request is when we publish the document, if you could make the comment period a couple of days after the MLA annual meeting. That would make my life a little easier. Their meeting is scheduled for the 19th to the 21st in January. If we could let that public comments go a little beyond that.

CHAIRMAN BORDEN: I think that's possible. We can include a notice right in there that in order to make your life easier we're going to extend the comment period. We've got a few more items on the agenda. That concludes this.

#### **STATE AND FEDERAL INCONSISTENCIES IN LCMA 4 SEASON CLOSURE**

CHAIRMAN BORDEN: Okay so the next item is Item 6, which is the issue of State and Federal Inconsistencies. We had a postponed motion that will go on the table.

Before I declare that on the table, what I would like to do is have Megan just remind us of where this has been. There have been discussions by some of the individuals around the table that have slightly different opinions on what to do. But I think they've crafted a substitute motion that we can deal with. Megan.

MS. WARE: Just a reminder, this is in regard to the Area 4 Season Closure. We had received a letter from New York and New Jersey, asking that the different regulations in state and federal waters be addressed; specifically the application of the most restrictive rule and the requirement that traps come out of the water in federal waters. This was the motion that was made at the August Board meeting, and then it was postponed. I think everyone has had a chance to discuss it, so I'll open up the floor for a substitute motion.

CHAIRMAN BORDEN: Jim.

MR. JAMES J. GILMORE: Are you clairvoyant? You knew it was coming to me? We've had some discussions with NOAA Fisheries, particularly Pete Burns. The first part of this motion actually is not allowed by the Service, so essentially we couldn't do that motion and still be consistent with what the Feds are doing.

However, with those discussions there are conservation equivalent measures that we consider for Area 4. To address that we're going to go outside of the meeting and have meetings with New Jersey and the Feds to come up with some of those measures, to try to address that first point. Then secondly, the second point is allowed under the federal rules; but we would have to do some regulatory changes. I think the solution we've come up with is a substitute motion, and Megan if you could put that up.

CHAIRMAN BORDEN: Before you do that Jim, let me declare that the motion is on the floor, and if someone would like to make a substitute motion, which Jim is going to make, you can do that.

MR. GILMORE: Do you want me to read it first and get a second? How do you want to do this?

CHAIRMAN BORDEN: Do you want to read the motion?

**MR. GILMORE: Yes. Move to substitute (1) LCMA 4 states, New Jersey and New York will work with representatives from NOAA Fisheries, to develop conservation equivalent alternatives for the current LCMA 4 season closure. We request that the Technical Committee review the alternative management measures, to assure that the conservation goals of Addendum XVII are met; and (2) The LCMA 4 seasonal closure relates only to LCMA 4.**

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The Board will review the minutes during its next meeting.

**Permit holders with an LCMA 4 designation in another lobster management area designation on their lobster permits would not have to similarly remove their lobster gear from the other designated management areas during the LCMA 4 closed season. This also applies to seasonal closures in other LCMAs.**

CHAIRMAN BORDEN: All right we have a second, yes Tom; discussion, Jim, any further discussion?

MR. GILMORE: Just my favorite part of working with the Feds is brevity is never a solution to an addendum. But I think it fixes the problem on both issues, so I think we're fully supportive, the Feds are on board with it, and if Pete has anything else he wants to add I would appreciate it.

CHAIRMAN BORDEN: Tom, as a seconder, do you want to comment at all?

MR. TOM BAUM: No, I'll defer to Pete.

MR. BURNS: I appreciate the work of the staff with New York DEC and with New Jersey Fish and Game. We talked about this a little bit. I think that we can support certainly working with those states, and with the industry to come up with some conservationally equivalent alternatives to the Area 4 closure that might work a little bit more consistently across state and federal lines. Certainly the second part is a little bit more specific to the issue than the original motion was. I think we can certainly support that because the language is almost the same as what we have in our federal regulations.

CHAIRMAN BORDEN: Anyone else want to comment on the motion? Is there any objection to the motion? **No objections, the motion stands approved by unanimous consent; moving along, next item on the agenda.**

MR. ADAM NOWALSKY: Point of order.

CHAIRMAN BORDEN: Oh, we've got to vote on it finally. Thank you, Adam. Are you ready for the question? We need to vote on this as a final action, right? **We're voting on the main motion, which is on the board. The substitute has been approved. Is there any need for an actual vote? If not any objection to approving it by unanimous consent, no objections it stands approved.** Next item is Consider Approval of the 2017 FMP Review.

#### **CONSIDER APPROVAL OF 2017 FMP REVIEW AND COMPLIANCE REPORTS**

##### **AMERICAN LOBSTER**

MS. WARE: Today we have two FMP reviews. We have the Lobster FMP Review and then our first Jonah crab FMP review. We'll start with lobster. The graph on the screen is commercial landings. The lobster fishery has seen incredible expansion in landings over the last 40 years. In 2016 coastwide landings were 158 million pounds, which is the highest on record.

The largest contributors to the fishery are Maine in blue and Massachusetts in red, with 83 percent and 11 percent of landings respectively. Maine, New Hampshire, and Massachusetts all had record high landings in 2016. As a result, 98 percent of landings are coming from that Gulf of Maine/Georges Bank stock.

The ex-vessel value for lobster was 666.7 million, which again is another record for lobster. We are still under Amendment 3 and Addenda 1 through 24. Under Addendum XVIII, LCMAs 2 and 3 implemented trap reductions, and ahead of the 2017 fishing year both areas had a 5 percent trap reduction. That came out to 6,781 traps retired in Area 2, and 8,008 traps retired in Area 3.

Those numbers do include traps that were retired to that trap transfer conservation tax. There is a requirement for non de minimis

states to conduct surveys. Today I'll be showing the Maine/New Hampshire surveys and the Rhode Island surveys, just for some regional comparisons. But the other surveys are in the FMP review.

For the Maine/New Hampshire trawl survey, the spring abundance which is on top had an increase from 2015, while that fall survey abundance slightly decreased from 2015, but still well above the time series average. In contrast for the Rhode Island survey, all abundances were low. The fall sublegal abundance did show a slight increase in 2015 and 2016.

Next slide is the ventless trap survey, so again it will be Maine on the left and Rhode Island on the right. For Maine there were increases, the number of sublegal and legal lobsters caught in the 2016 ventless trap survey, as compared to 2015. In Rhode Island the CPUE of sublegal lobsters has increased since 2014, but that CPU of legal lobsters has remained fairly steady. Then this is the settlement surveys for the two states. In Maine the settlement surveys in 2016 continued to show low values in all statistical areas. Similarly in Rhode Island, those settlement survey indices were down from 2015. In terms of state compliance, all states are found to be in compliance with the biological management measures; however Rhode Island and Connecticut did not conduct any sea sampling per Addendum X.

States did note staffing and budget constraints. For de minimis status, it's defined as commercial landings in the two most recent years of data do not exceed an average of 40,000 pounds. We had requests from Delaware, Maryland, and Virginia; and all three states qualify. For PRT recommendations, the PRT recommends the Board approve de minimis status for those three states.

The PRT does note an increase in the number of enforcement concerns reported in state compliance reports, and recommends improved

enforcement, especially the at-sea enforcement of trap limits. The PRT recommends the Board investigate the best way to quantify effort in the lobster fishery.

There are several ways to measure effort. We can look at the number of permit holders, the number of trap allocations, number of trap hauls. Historically the Board has limited effort through trap allocations, but the effectiveness of trap allocations to reduce effort is confounded by their relationship to trap hauls, and the expansion of the Jonah crab fishery.

Finding a way to monitor the true level of effort in the fishery would provide the Board with much needed information. Then finally, the PRT recommends investigating the connectivity between the offshore portion of southern New England and Georges Bank. With that I will take any questions, and that is kind of the motion we would be looking for.

CHAIRMAN BORDEN: Questions. Emerson.

MR. EMERSON C. HASBROUCK: Thank you, Megan, for your presentation. I think there was a typo there, unless something is going on in Maine that we don't know about. I don't know why we would want to declare Maine de minimis in the lobster fishery.

MS. WARE: I was just making sure you were paying attention.

CHAIRMAN BORDEN: Pat seconded that motion. Okay, so any questions? No questions, does someone care to make this motion? I think we have to have an actual. Mark.

MR. MARK ALEXANDER: I would just like to amend this motion to include Connecticut as a de minimis state. In the compliance report it was an oversight on my part. I did not request that. Connecticut's three-year-average landings are an order of magnitude less than the 1 percent threshold. Even the highest year in the past three years is only about 0.3 percent.

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The Board will review the minutes during its next meeting.



CHAIRMAN BORDEN: If you would like to make the motion and do that you're free to do that.

MR. ALEXANDER: I would like to make a motion. Sorry, Megan?

CHAIRMAN BORDEN: You're free to do that. To include a motion, in other words you're making the motion on the board which includes Connecticut.

MR. ALEXANDER: I'm making a motion to amend to include.

CHAIRMAN BORDEN: There is no motion on the table. If you want to make that as a motion and include Connecticut; in terms of de minimis, you can do that.

MS. WARE: I'll just jump in here. I think you mean for Jonah crab, which will be the next one. This is for lobster. No worries.

CHAIRMAN BORDEN: Does someone want to make this? I think we need an actual motion on this. Doug.

**MR. GROUT: Move to approve the 2017 Lobster FMP Review State Compliance Reports and de minimis status for Delaware, Maryland, and Virginia.**

CHAIRMAN BORDEN: Is there a second, seconded by Roy? Any discussion on this, is there any objection to the motion? **The motion stands approved by unanimous consent.** Megan.

#### **JONAH CRAB FMP REVIEW**

MS. WARE: We'll move right along to the Jonah Crab FMP Review. This is the first FMP review for the species. Again, similar graph here showing commercial landings, in 2016 there were 15 million pounds of Jonah crab that were landed along the coast, representing 11.9 million pounds in ex-vessel value.

The states with the two highest landings are Massachusetts in gray with 68 percent, and Rhode Island in yellow with 24 percent. In terms of status of the stock, the status of Jonah crab is relatively unknown, and no coastwide stock assessment has been conducted. The TC did meet via conference call to discuss what data elements would be needed to conduct a coastwide stock assessment.

They developed the following list of research topics. Information on growth rates, there has been some regional studies, but confirming that that is representative of the whole coast. Molt frequency and molt increment, again maturity in different regions, there have been some studies conducted, but not coastwide.

Size ratio of mating crabs and sperm limitations, mortality rates in the claw fishery; there has been an in-lab study, but confirming that those rates are still true in the field. Migration, there are several ongoing tagging studies. Hopefully we'll be able to check the box on that issue there; and then an estimate of natural mortality.

In terms of status of management, we are under the FMP, as well as Addendum I. I will note that Addendum II, the implementation date for that is January 1, 2018. That established the coastwide standard for claw harvest, as well as defined bycatch. Some states have implemented this, for those who haven't that is the deadline.

States were asked to extend their sampling programs to Jonah crab. I'll be showing the Maine surveys and the Massachusetts surveys; again just for some regional differences here. But the other state's information can be found in the FMP review. This is the Maine/New Hampshire trawl survey. Spring is on the top, and fall is on the bottom. The spring abundance indices have significantly increased since 2013. In the fall the abundance indices for Jonah crab were slightly less than 2015; but still well above the time series average.

Then this is the Massachusetts trawl survey; we have spring on the left and fall on the right. Similar story here, so there is an upward trend in relative abundance in both seasons; particularly in the spring survey since 2010. In terms of state compliance, most states are in compliance with the FMP and addenda.

Two states have not implemented Jonah crab regulations. New York has not implemented the full suite of management measures. They do currently prohibit the harvest of egg bearing females, and they have their recreational harvest limit of 50 crabs. The other provisions are expected in early 2018.

Then Delaware has not yet implemented Jonah crab regulations. Delaware delayed implementation in anticipation of changes to the lobster regulations through Addendum XXV. This is given the small size of their lobster and Jonah crab fishery, as well as it's a costly process. Now that we are not moving forward with Addendum XXV, Delaware has started the Jonah crab regulation process, and those are expected in 2018.

For de minimis status states qualify, if for the three preceding years their average commercial landings constitute less than 1 percent of that average coastwide commercial catch. Delaware, Maryland, and Virginia apply and meet the de minimis requirement. PRT recommends approving de minimis status for those three states.

The PRT recommends the TC discuss standard methods for reporting survey data. This includes a common unit of measure; as well as a standard definition of young of year. The PRT highlights the importance of all states implementing that 4.75 inch minimum carapace width; and the PRT recommends continued research so that a coastwide stock assessment can be completed in the future. With that I will take any questions.

CHAIRMAN BORDEN: Are there any questions for Megan? No hands up. Mark Alexander, I understand you want to make a motion.

**MR. ALEXANDER: Where did you get that idea? Yes I would like to make a motion to amend just to add Connecticut to the list of de minimis states.**

CHAIRMAN BORDEN: Mark, just the motion. You don't have to amend anything. It's not on the board.

MR. ALEXANDER: Okay.

CHAIRMAN BORDEN: You just make your motion and include Connecticut.

**MR. ALEXANDER: I will make this motion here. I move to approve the 2017 Jonah Crab FMP Review State Compliance Reports, and de minimis status for Connecticut, Delaware, Maryland, and Virginia.**

CHAIRMAN BORDEN: Jim Gilmore has seconded any discussion on this? Is there any objection to approving the motion by unanimous consent? **No objections; it stands approved.**

#### OTHER BUSINESS

CHAIRMAN BORDEN: Okay, so moving along to other business. We had two individuals that wanted to speak; I'm one of them. I'm going to take Pat Keliher. Is there anyone else that wants to? Dan, you'll go second. Okay Pat and then Dan.

MR. KELIHER: This Board and this Commission would be remiss if we did not recognize Terry Stockwell; and his retirement from the Maine Department of Marine Resources. Terry, sitting there all alone at the end of the table, outstanding in his field, has served the Department of Marine Resources as the External Affairs Director since 2005, and also as my designee to the New England Fisheries Management Council since 2006.

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The Board will review the minutes during its next meeting.

He was hired as a Resource Management Coordinator, working on lobsters, as well as whale issues with the Atlantic Large Whale Take Reduction Team and the Harbor Porpoise Team as well. Terry served as Chair of many committees on the Council, as well as the Commission, and actually served as the Vice-Chair and Chair of the New England Fisheries Management Council.

Terry is well respected around this table, and within commercial fisheries up and down the coast within New England. Frankly, he's been a mentor to me; even as a member of my staff. I learned a tremendous amount from Terry; and I could turn him loose to come to these meetings without feeling like I had to worry about the direction that he was going to be moving the state of Maine in.

He certainly has been missed. Every time I go to a New England Council meeting I miss him greatly. But he certainly has been missed in my office; and I want to recognize him here today. I know the Executive Director has a little token of the Commission's appreciation. Terry, to avoid you having to carry something back to the state of Maine, I also have something in my office for you as well. It's not brown liquid, but it will hang on the wall and look good.

MR. TERRY STOCKWELL: That's a ploy to get me to come to Augusta.

CHAIRMAN BORDEN: Bob.

EXECUTIVE DIRECTOR ROBERT E. BEAL: I don't have a lot to add to what Pat said, from the Commission perspective, other than a big thank you for Terry for all the years of serving as proxy for George Lapointe before Pat Keliher and Pat over the 11 years. I think you have at least a total 11 years here sitting around this table. On behalf of the Commission thank you for that. I've got a Commissioner pin that I will bring down to you, and a letter of recognition of your

service on behalf of all the Commissioners, so thank you, Terry. (Applause)

CHAIRMAN BORDEN: Terry, do you want to say anything?

MR. STOCKWELL: Yes, thank you Mr. Chairman, I will be brief, because I don't want to stand in the way of everyone getting lunch. But it's with mixed emotions that I'm back here solely with one hat on. I've enjoyed working for the state of Maine, and working with all of you in this process, and many of you in both the New England and Mid-Atlantic Fishery Management Councils. With my sole hat on as a Council representative, I look forward to coming to these meetings again and continuing our collaborations and friendships, so thank you very much, Pat and Bob and the rest of the Commission family.

CHAIRMAN BORDEN: Thanks, Terry. Dan.

MR. MCKIERNAN: As I mentioned earlier, I would like to have the Board consider adding to the Annual Plan Review Team summaries of the status of the fishery some effort statistics, specifically number of active permits, number of traps fished, and number of trap hauls that states could submit. Right now Section 2.1 in the Plan Review talks about the commercial fishery status, but only landings are included.

I think it would be appropriate, in light of today's presentation from Maine that they now have a good handle and good statistical precision for some of these estimates, to bring those forward. I do that because I think it's important when you think about the weighted issues such as the herring fishery, the menhaden fishery, and the whale issues. I think it's necessary that we get a better handle on the performance of the fishery in its totality.

CHAIRMAN BORDEN: Comments on that suggestion, any objections? No objections so we'll do it. Does anyone else want to speak before I give you my concluding remarks? I

think this is my last meeting; I would point out as the Chair. I have served for two years. I would just like to say that it has been really delightful to serve as the Chair.

There have been a few times where I probably would have preferred being someplace else; but that goes with the turf. I think the Board, in my own view, has done a tremendous amount of work over the last two years. I would just like to just quickly summarize this. In terms of the Technical Committee and the PDT, they've produced no less than seven really first class documents on the status of the stock; and done analyses that have never been done before.

I think it was extraordinarily useful. They should be absolutely commended, and I hope Kathleen takes that message back to them. I'm sure there have been a whole host of hours where they've said, why are we doing this work, they don't pay any attention to all our suggestions? Well, we have paid attention to some of their suggestions; but not all.

I would note that in the past two years we completed a new stock assessment; and we're well on the way to doing another one. We adopted the first Jonah crab FMP; we've already amended it twice. If you look at the landings, the way the landings have gone up, we could not have acted in a more responsible manner.

We previously had been fully engaged with the coral process and the Monument process; and finally, I would note that we have two addendums that are in progress already, a data collection addendum, Addendum XXVI, and then the Gulf of Maine/Georges Bank Addendum to try to add resiliency to the stock. Both of those are extraordinarily important actions for the Board.

What I anticipate going forward is that you're going to have to keep up the pace. In terms of keeping up the pace, you're going to have to look at the next meeting, you're going to have

to deal with the terms of reference for the next stock assessment; and we'll need to continue to review those as needed. We'll need to finalize in the next couple of years Addendum XXVI and XXVII; possibly work on corals some more, and the Monument issue. Finally, given the discussion on whales, I anticipate that there is going to be some necessity for us to get engaged in activities to reduce vertical lines in the water, and address some of those concerns. My complements to all of you, I would particularly like to single out Megan, for all the work that she's done. The staff has really gone a great job, applause to Megan. (Applause)

#### **ADJOURNMENT**

CHAIRMAN BORDEN: Is there any other business to come before the Board? No other business, the meeting is adjourned.

(Whereupon the meeting adjourned at 12:25 o'clock p.m. on October 16, 2017)

# ***Atlantic States Marine Fisheries Commission***

**DRAFT ADDENDUM XXVI TO AMENDMENT 3 TO THE  
AMERICAN LOBSTER FISHERY MANAGEMENT PLAN;  
DRAFT ADDENDUM III TO THE JONAH CRAB FISHERY  
MANAGEMENT PLAN FOR PUBLIC COMMENT**

***Harvester Reporting and Biological Data Collection***



***Vision: Sustainably Managing Atlantic Coastal Fisheries***

**November 2017**

## Draft Document for Public Comment

### Public Comment Process and Proposed Timeline

In January 2017, the American Lobster Management Board initiated an addendum to improve harvest reporting and biological data collection in the American lobster fishery. This draft Addendum seeks to utilize the latest technology to improve reporting, collect greater effort data, increase the spatial resolution of harvester reporting, and advance the collection of biological data offshore. This document presents background on the Atlantic States Marine Fisheries Commission, the addendum process and timeline, a statement of the problem, and management measures for public consideration and comment. Given the Jonah crab fishery is jointly managed by the Lobster Board and reporting requirements in the two fisheries mirror one another, this addendum proposes changes to the reporting and biological sampling requirements in both the lobster and Jonah crab fisheries.

The public is encouraged to submit comments regarding the proposed management options in this document at any time during the addendum process. The final date comments will be accepted is **January 22, 2018 at 5:00 p.m. EST**. Comments may be submitted by mail, email, or fax. If you have any questions or would like to submit comments, please use the contact information below.

Mail: Megan Ware

Atlantic States Marine Fisheries Commission  
1050 N. Highland St. Suite 200A-N  
Arlington, VA 22201  
Fax: (703) 842-0741

Email: [comments@asmfc.org](mailto:comments@asmfc.org)  
(Subject line: Lobster  
Draft Addendum XXVI)

<i>February-October 2017</i>	Draft Addendum for Public Comment Developed
<i>October 2017</i>	Board Reviews Draft and Makes Any Necessary Changes
<i>November 2017 – January 2018</i>	Public Comment Period Including Public Hearings
<i>February 2018</i>	Management Board Reviews Public Comment, Selection of Management Measures, Final Approval of Addendum XXVI
<i>TBD</i>	Implementation of Provisions in Addendum XXVI

## Draft Document for Public Comment

### Executive Summary

Recent management action in the Northwest Atlantic, including the protection of deep sea corals, the declaration of a national monument, and the expansion of offshore wind projects, have highlighted deficiencies in the current lobster and Jonah crab reporting requirements. These include a lack of spatial resolution in harvester data and a significant number of fishermen who are not required to report. As a result, efforts to estimate the economic impacts of these various management actions on the lobster and Jonah crab fisheries have been hindered and states have been forced to piece together information from harvester reports, industry surveys, and fishermen interviews to gather the information needed. In addition, as the lobster and Jonah crab fisheries continue to expand offshore, there is a greater disconnect between where the fishery is being prosecuted and where biological sampling is occurring. More specifically, while most of the sampling occurs in state waters, an increasing volume of lobster and Jonah crab are being harvested in federal waters. The lack of biological information on the offshore portions of these species can impede effective management.

The Board initiated Lobster Draft Addendum XXVI/Jonah Crab Draft Addendum III to improve harvester reporting and biological data collection in state and federal waters. The goals of this addendum are to: 1) utilize the latest technology to improve reporting; 2) increase the spatial resolution of harvester data; 3) collect greater effort data; and 4) advance the collection of biological data offshore.

The Draft Addendum includes three issues. The first issue asks what percentage of harvesters should be required to report in the lobster and Jonah crab fisheries. The Addendum recommends, but does not require, the implementation of electronic reporting by the states as a cost-effective method to increase harvester reporting. The second issue asks whether the data elements currently collected should be expanded to collect a greater amount of information on the lobster and Jonah crab fisheries. The third issue asks how, and at what resolution, spatial information should be collected. In addition, the addendum provides several recommendations to NOAA Fisheries, including implementation of 100% federal harvester reporting, creation of a fixed-gear VTR form, and expansion of a biological sampling program offshore.

**Draft Document for Public Comment**

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## Draft Document for Public Comment

### 1.0 Introduction

The Atlantic States Marine Fisheries Commission (ASMFC) has coordinated the interstate management of American lobster (*Homarus americanus*) and Jonah crab (*Cancer borealis*) from 0-3 miles offshore since 1996 and 2015, respectively. American lobster is currently managed under Amendment 3 and Addenda I-XXIV to the Fishery Management Plan (FMP). Jonah crab is managed under the Interstate Fishery Management Plan and Addenda I-II. Management authority in the Exclusive Economic Zone (EEZ) from 3-200 miles from shore lies with NOAA Fisheries. The management unit for both species includes all coastal migratory stocks between Maine and Virginia. There are ten states which regulate American lobster and Jonah crab in state waters and regulate the landings of lobster in state ports.

The Board initiated this addendum to improve harvester reporting and biological data collection in state and federal waters. Through Lobster Addendum X (2007) and the Jonah Crab FMP, states are required to implement, at a minimum, 10% harvester reporting and 100% dealer reporting. In addition, states are required to complete fishery dependent and independent biological sampling, such as sea and/or port sampling. For lobster, states are also required to conduct a fishery-independent survey, such as an annual trawl survey, a ventless trap survey (VTS), or a settlement survey. *De minimis* states are exempt from the biological sampling requirements in the lobster and Jonah crab fisheries.

Recent management action has highlighted several deficiencies in the data collection requirements for lobster and Jonah crab. One of the foremost deficiencies is the lack of spatial information collected. While harvesters are required to report the statistical area in which they fish, this information is too coarse to respond to the increasing number of marine spatial planning efforts which require fine-scale data. Another concern is that not all fishermen are required to report landings to either the state or NOAA Fisheries. Currently, only 10% of lobster and crab permit holders in Maine are selected to submit landings reports each year and vessels which are only issued a federal lobster permit are exempt from Vessel Trip Reports (VTRs). Given that roughly 83% of lobster is landed in Maine and the fishery continues to move further offshore, the lack of harvester reporting in these areas results in data gaps in the fishery. Deficiencies in the collection of biological data were also highlighted in a January 2016 report by the American Lobster Technical Committee (TC) which noted that while inshore waters are adequately sampled, little biological sampling occurs offshore. This is a growing problem as, due to species shifts and a decline of the inshore population, an increasing percentage of lobster is being harvested from federal waters and the Jonah crab fishery is primarily conducted offshore.

This Addendum seeks to address these issues by improving the resolution and quality of data collected in the lobster and Jonah crab fisheries. The goals of this addendum are to: 1) utilize the latest technology to improve reporting; 2) collect greater effort data; 3) increase the spatial resolution of harvester reporting; and 4) advance the collection of biological data offshore.

## 2.0 Overview

### 2.1 Statement of Problem

Recent management action in the Northwest Atlantic, including the protection of deep sea corals, the declaration of a national monument, and the expansion of offshore wind, have highlighted the fact that current harvester reporting requirements do not provide the level of information needed to respond to management issues. Furthermore, while the lobster fishery continues to move further offshore and the Jonah crab fishery is primarily conducted in federal waters, the majority of biological data is collected inshore. This disconnect hinders effective management of the two species. The Board initiated this addendum to improve harvester reporting and biological data collection in state and federal waters. The management measures in this addendum are intended to utilize the latest technology to improve the spatial resolution of harvester data, increase the collection of fishery effort data, and promote the collection of biological data offshore.

### 2.2 History of Reporting Requirements

American lobster is currently managed under Amendment 3 and its subsequent addenda. Amendment 3, which was finalized in 1997, required states to, at a minimum, maintain their current reporting and data collection programs. At the time of implementation, the Atlantic Coastal Cooperative Statistics Program (ACCSP) was still being developed and data collection standards had not been completed for lobster. As a result, action to specify monitoring and reporting requirements was deferred until completion of a coastwide statistics program by ACCSP.

By 1999 data collection standards for ACCSP were nearly complete and Addendum I (1999) established data collection guidelines in the lobster fishery. Importantly, while it encouraged states to adopt monitoring and reporting standards, state agencies were not required to make any changes to their current reporting system. It wasn't until Addendum VIII (2006) that a consistent set of reporting requirements were implemented in the lobster fishery. Specifically, states were required to collect trip-level data from at least 10% of the lobster fishery. This included information on landings (i.e: catch in pounds) and effort (i.e: trap hauls, soak time, number of trips, total traps set, number of traps fished per trip). All dealers were required to report lobster landings, by weight, on a trip level basis. States were also required to implement fishery dependent data programs, such as sea sampling and port sampling, to collect information on lobster length, sex, and cull status.

### 2.3 Current Reporting Requirements

#### 2.3.1 State Reporting Requirements

##### *American Lobster*

Addendum X (2007) outlines the current reporting requirements in the lobster fishery. These requirements build upon those established in Addendum VIII and ensure that the collection programs meet ACCSP standards. For catch reporting, Addendum X requires at least 10% harvester reporting, with the expectation of 100% harvester reporting over time, and 100% dealer reporting. All states have implemented 100% harvester reporting, with the exception of Maine which has 10% harvester reporting (Table 1). Harvester reports are required to include

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information such as vessel number, trip start date, statistical area, number of traps hauled, number of traps set, pounds of lobster harvested, and trip length. Dealer reports are required to include information on the species landed, the pounds harvested, the state and port of landing, market grade, and price per pound.

Addendum X also requires biological sampling from fishery independent and dependent sources. States are required to conduct sea sampling to characterize commercial catch and collect data on length, sex, v-notch, egg-bearing status, discards, cull status, and traps sampled. Port sampling is also required to collect information on length, sex, cull status, and market category. Sufficient sea sampling can replace port sampling. In addition, Addendum X requires states to implement fishery-independent sampling programs, with each state conducting either an annual trawl survey, a ventless trap survey (VTS), or a settlement survey. The VTS is designed to sample lobster habitats which may not be accessible to a trawl survey and provides information regarding the abundance of sub-legal lobsters (<53mm CL). Settlement surveys provide information on the youngest life stages of lobster (Stages IV and V). Several states carry out multiple fishery-independent sampling programs including Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut (Table 1). *De minimis* states (currently Delaware, Maryland, and Virginia) are not required to complete the biological sampling programs prescribed in Addendum X.

**Table 1:** Harvester reporting, dealer reporting, and biological data collection programs for American lobster. New Hampshire and New York’s trawl surveys are conducted in conjunction with Maine and Connecticut, respectively. *De minimis* states are not required to implement biological data collection programs.

	De Minimis Status in 2016	% Dealer Reporting	% Harvester Reporting	Sea Sampling	Port Sampling	Trawl Survey	Ventless Trap Survey	Settlement Survey
ME		100%	10%	✓		✓	✓	✓
NH		100%	100%	✓	✓	✓w/ ME	✓	✓
MA		100%	100%	✓		✓	✓	✓
RI		100%	100%	✓ (none in 2016)	✓	✓	✓	✓
CT		100%	100%	✓ (none in 2016)		✓		✓
NY		100%	100%	✓	✓	✓w/CT		
NJ		100%	100%	✓		✓		
DE	✓	100%	100%			✓		
MD	✓	100%	100%	✓		✓		
VA	✓	100%	100%					
NOAA Fisheries		100%	VTR if permitted for another species	✓	✓	✓	*	

\*NOAA supports ventless trap surveys through grants.

### *Maine 10% Harvester Reporting*

Maine currently requires 10% harvester reporting; however, this sampling is stratified by state fishing zone (Zones A through G) and license class (Table 2). More specifically, within each combination of zone and license class, a proportion of harvesters (i.e. 10%) are annually selected to complete trip reports. All Maine lobster license holders, except those chosen the previous year, are included in the annual random draw, including licenses that had no landings the previous year and permits that are required to submit VTRs. Those permit holders that are

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required to submit VTRs do not submit duplicate reports to the Maine harvester logbook, but continue to report only through the VTR process.

**Table 2:** Maine license classes in the lobster and crab fishery.

License Class	Abbreviation	Description
Class I	LC1	No crew
	LCO	No crew, permit holder over 70 years old
Class II	LC2	1 crew
	LC2O	1 crew, permit holder over 70 years old
Class III	LC3	2 crew
	LC3O	2 crew, permit holder over 70 years old
Student	LCS	Student license
<18 License	LCU	Commercial license for those under 18 years old
Tribal	various	Native American affiliation
Non-Commercial	LNC	Recreational permit
Non-resident	various	Not a resident of Maine

### ***Jonah Crab***

Under the Jonah Crab FMP, participation in the directed Jonah crab fishery is tied to a lobster permit. As a result, the FMP extends the reporting requirements in the lobster fishery to the Jonah crab fishery. This means that states are required to implement 100% mandatory dealer reporting and 100% harvester reporting; however, jurisdictions that currently require less than 100% of harvesters to report in the lobster fishery are required to maintain, at a minimum, their current programs and extend them to Jonah crab. Harvester reports must include a unique trip ID, vessel number, trip start date, NMFS statistical area, traps hauled, traps set, pounds landed, trip length, soak time, and target species. Dealer reports must include a unique trip ID, species landed, quantity landed, state and port of landing, market grade and category, areas fished, trip length, and price per pound.

In addition, the Jonah Crab FMP states that, at a minimum, state and federal agencies shall conduct port/sea sampling to collect information on carapace width, sex, discards, egg-bearing status, cull status, shell hardness, and crab parts, where possible. The FMP also encourages states to extend current fishery-independent lobster surveys to Jonah crab.

### **2.3.2 Federal Reporting Requirements**

For many federally permitted fisheries, catch information (including species caught and discarded, gear quantity, fishing location, and depth) is collected on a trip-level basis through Vessel Trip Reports (VTRs). However, a federal lobster permit does not contain a federal reporting requirement. This means that if a vessel is issued a federal lobster permit and that vessel has no other federal permits, the vessel is not required to fill out a VTR. As a result, a portion of the lobster and Jonah crab fleet which fishes in federal waters is not required to submit a landings report. This portion varies spatially, with a smaller percentage reporting in nearshore waters of the Gulf of Maine (GOM) and a higher portion reporting in Southern New

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England (SNE) and the Mid-Atlantic. For example, only 10% of all Maine federal permit holders and 3% of the total Maine lobster fleet report through VTRs. In statistical area 514 (Massachusetts coast), 25% of permits report with VTRs. This percentage increases with distance from shore as roughly 63% of the lobster fleet which fishes in statistical area 537 (south of Cape Cod) reports through VTRs and 98% of the fleet in statistical area 515 (near Hague line) reports with VTRs. A high portion of vessels (95%) hailing from New Jersey through Virginia submit VTRs.

The NMFS Northeast Fisheries Science Center also conducts a bottom trawl survey which has collected data on lobster and Jonah crab abundance since the 1960's. The bottom trawl survey is conducted twice a year, in the spring and fall, and extends from the Scotian Shelf to Cape Hatteras, including the GOM and Georges Bank (GBK). The survey uses a random sampling design and stratifies the survey area by depth. Data from the bottom trawl survey has been consistently incorporated into the lobster stock assessments and provides important information regarding Jonah crab abundance offshore.

### **2.5 Deficiencies with Current Harvester Reporting**

#### ***2.5.1 Spatial Resolution of Data***

Recent management actions have highlighted serious data deficiencies in the lobster and Jonah crab fisheries. These deficiencies have hindered the ability to effectively manage the resource, respond to the growing use of marine spatial planning, and assess the status of the offshore populations.

One of the largest deficiencies is the lack of spatial information collected in the two fisheries. While harvester reports are required to indicate statistical area fished, information regarding Lobster Conservation Management Areas (LCMAs) (see Appendix 1) or depth are not consistently collected (Table 3). This can hinder lobster management as a single statistical area can span multiple LCMAs, each of which has a unique set of regulations. For example, statistical area 521 spans LCMAs 1, 2, 3, and Outer Cape Cod (OCC), each of which has a different combination of lobster gauge size requirements. Furthermore, the coarse resolution of data collected by statistical area makes it difficult to determine potential impacts to the fisheries from fine-scale marine spatial planning in the Northwest Atlantic. As an example, recent action to protect deep-sea corals in GBK and the GOM required information on the magnitude of lobster and Jonah crab fishing in specific areas in order to calculate potential economic impacts. Without this fine scale spatial information, impacts to the lobster and Jonah crab fisheries had to be estimated by piecing together information from harvester reports, industry surveys, and fishermen interviews. Moreover, as the ocean continues to be divided between user groups, the lack of spatial resolution in harvester data collected has impeded the ability to accurately assess impacts to the lobster and Jonah crab industries.

Another deficiency is the lack of data collected on the depth at which the lobster and Jonah crab fisheries takes place. Recent management actions, including the establishment of a national monument, have considered a series of options which differ by depth. Given that information regarding the depth of fishing activity is not consistently collected among the

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states (Table 3), it is challenging to respond to these management actions and illustrate potential economic consequences to the lobster fishery. This situation is made worse by the poor spatial resolution of the data.

**Table 3:** Data components collected in current harvester reports along the coast.

	Reports Submitted	Trip Length	# Of Crew	Traps Hauled	Active Traps Fished	Soak Time	Depth Fished	Stat Area	LCMA	Lat/ Long	Distance from Shore	Port Landed	Pounds Landed	Disposition	Avg. Traps Per Trawl
ME	Monthly	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓
NH	Monthly	✓		✓	✓	✓		✓				✓	✓		✓
MA	Monthly	✓	✓*	✓	✓	✓		✓	✓			✓	✓	✓	✓*
RI	Quarter	✓	✓	✓	✓	✓		✓	✓			✓	✓	✓	
CT	Monthly	✓	✓	✓	✓	✓		✓				✓	✓	✓	
NY	Monthly	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
NJ	Monthly	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	
Federal VTR	Weekly or Monthly*	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓		✓

\* Massachusetts collects information on number of crew and average number of traps per trawl through an annual recall survey.

**2.5.2. Percentage of Harvester Reporting**

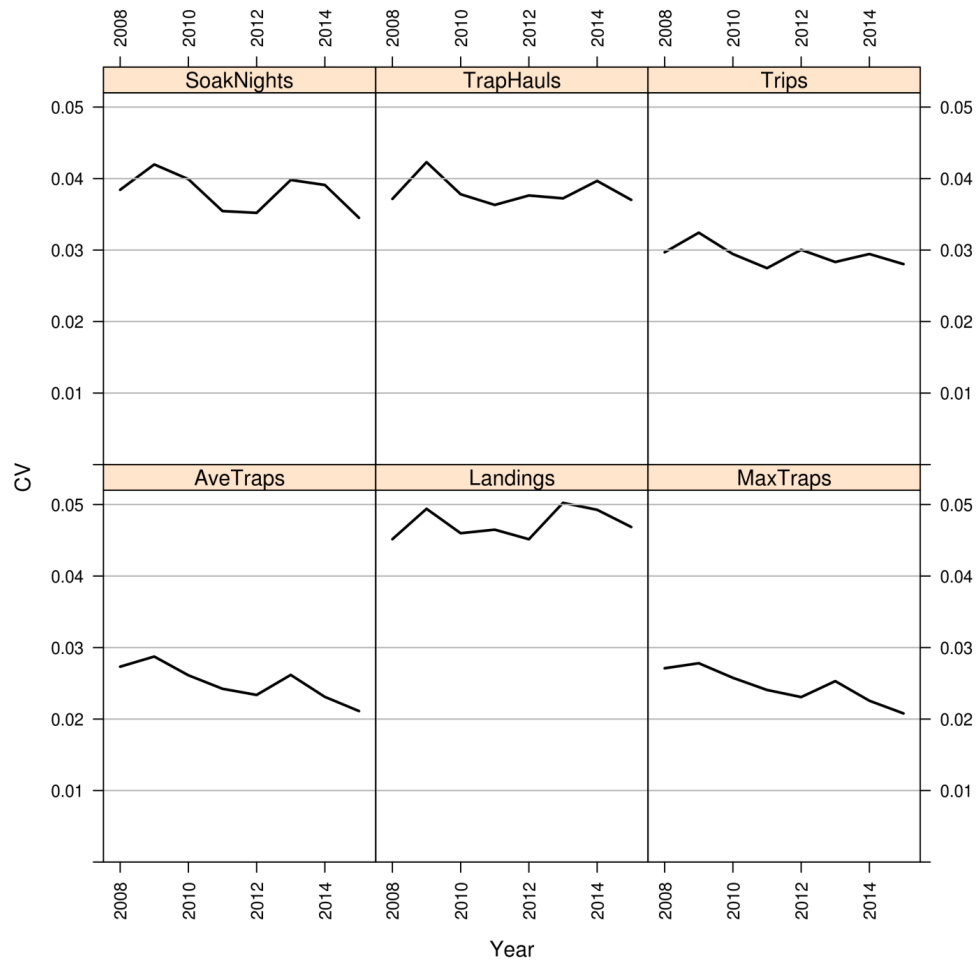
In addition to the lack of spatial resolution of harvester data, not all harvesters are required to report. Addendum X requires a minimum of 10% harvester reporting in the lobster fishery and this baseline requirement is extended to the Jonah crab fishery. Importantly, the expectation at the time was that all states would eventually implement 100% harvester reporting. Currently, Maine is the only state which has not implemented 100% harvester reporting and this is largely due to the size of the fishery. For context, more trips are taken by Maine lobstermen each year than the combined number of trips taken for all species in the states of New Hampshire, Rhode Island, Connecticut, New York, New Jersey, Delaware, South Carolina, and Georgia. As a result, expanding the Maine harvester reporting program to all lobster and Jonah crab fishermen could cost the state an additional \$500,000 a year, under current paper reporting methods. Furthermore, not all federally licensed lobstermen are required to submit harvester reports as those vessels which only have a lobster permit are not required to complete VTRs.

The lack of 100% harvester reporting in Maine and in federal waters means that assumptions must be made about the activity of the lobster and Jonah crab fisheries. While 100% dealer reporting along the coast provides information on the total amount of lobster and Jonah crab landed in each state, it is not always clear where these lobster and Jonah crab are caught and what level of effort is required to harvest them. Moreover, information regarding the effort and location of catch from those harvesters which do report must be assumed to be representative of the whole Maine and offshore fisheries. Given Maine accounts for over 80% of lobster landed in the U.S. and the offshore portion of the lobster fishery in SNE is becoming increasingly scrutinized as lobster abundance continues to decrease inshore, the scaling of a sub-sample of data to the whole fishery may be of concern.

In order to assess the effectiveness of the 10% harvester reporting requirement, the Board tasked the Technical Committee (TC) with determining a statistically valid sample of harvester

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reporting. A statistically precise sample of harvester reporting is needed to accurately scale up a subset of trip level reports to the full fishery. In their October 2017 report to the Board, the TC recommended 100% harvester reporting in the lobster and Jonah crab fisheries to accurately account for all trap hauls and the spatial extent of effort. Given the scale of the Maine fishery, the TC recommended that this 100% harvester reporting be achieved through electronic reporting, as this reduces the administrative burden on the state. In the interim, the TC did find that the current 10% harvester reporting in Maine is sufficiently precise, in large part due to the immense size of the Maine lobster fishery. Moreover, analysis showed that 10% harvester reporting results in a low coefficient of variation, a statistical measure of precision, for metrics such as trap hauls and landings (Figure 1). Furthermore, the scaling of landings reported by the sub-sample of harvesters to the entire Maine fishery fell within the 95% confidence interval of state-wide dealer landings. This suggests that 10% harvester reporting is a good representation of the whole Maine fishery.



**Figure 1:** Calculated CVs from harvester data (pooled across license types), by year, for various reporting fields. For all metrics, the CVs are below 0.05 meaning the 10% reporting achieves CV's below 5% for all metrics considered.

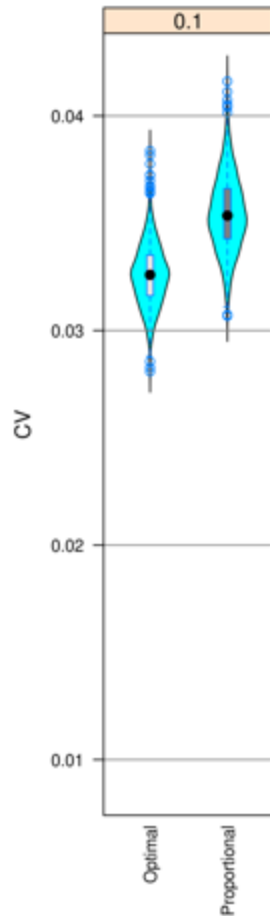
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While the TC did conclude that 10% harvester reporting is sufficiently precise, improvements could be made under the current level of harvester reporting to increase the precision and tracking of harvester behavior. Through their analysis, the TC concluded that sampling efforts by states which do not require 100% harvester reporting are best served if they focus on those permit classes which contain a large number of vessels and have a higher variance in landings. This optimized sampling allocation, rather than a proportional sampling allocation, improves the statistical precision of the harvester reporting program while maintaining the current workload of the state. As an example, in Maine the TC found that latent licenses (those licenses with no landings reported for the year) are being oversampled, creating inefficiencies and a lower level of precision. By evaluating the number of vessels in a license class, the standard deviation of landings, and relative sampling costs, the TC found an optimal sampling approach would place greater sampling effort on active LC1, LC2, and LC3 permits and less effort would be allocated to latent and recreational permits (Table 4). A comparison of the CV's for Maine's current proportional and the optimal allocation is shown in Figure 2.

**Table 4:** A comparison of the current proportional 10% harvester reporting in Maine versus the optimal allocation of reporting recommended by the TC. Licenses for individuals 70 years and older were combined into one license type (LCO). Tribal and non-resident licenses were not included in the analysis due to the small number of these licenses.

Licenses Type and Status	Current Proportional Reporting		Optimal Allocation of Reporting		
	# Vessels	% of Licenses	Allocation %	# Vessels	% of Licenses
LC1 Active	41	9.2%	8.4%	44	9.87%
LC1 Latent	70	15.3%	4.0%	21	4.58%
LC2 Active	190	11.4%	36.4%	188	11.26%
LC2 Latent	20	13.0%	2.7%	14	9.09%
LC3 Active	100	8.2%	28.2%	146	11.97%
LC3 Latent	4	10.3%	1.8%	10	25.64%
LCO Active	30	8.1%	7.6%	40	10.75%
LCO Latent	14	8.3%	1.7%	9	5.36%
LCS Active	36	7.3%	5.0%	26	5.26%
LCS Latent	27	8.1%	2.5%	13	3.90%
LCU Active	3	9.7%	0.4%	3	9.68%
LCU Latent	1	7.7%	0.3%	2	15.38%
LNC	114	6.4%	1.0%	6	0.34%





**Figure 2:** Comparison of CVs for trap hauls with optimal sampling (left side) vs. proportional sampling (right side) under 10% harvester reporting. The black dots represent the mean while the width and length of the shape represents the distribution of the data.

### 2.6 Deficiencies in Current Biological Data Collection Programs

In a January 2016 report to the Board, the TC stated that while current biological collection programs are sufficient to characterize catch in states waters, the resolution of biological data is lacking in federal waters. Currently, states administer a suite of biological sampling programs (i.e. sea sampling, port sampling, VTS, larval surveys, trawl surveys) to assess the status of the lobster and Jonah crab stocks; however, much of this effort is contained to state waters or takes place in nearshore waters which are accessible via a day trip. Table 5 and Appendix 2 show the location and depth of trawl surveys and VTS used in the 2015 American Lobster Stock Assessment. While the surveys span a broad length of the coast, most state trawl surveys do not extend past the 12 mile territorial sea boundary. The deepest trawl survey is the NEFSC Bottom Trawl Survey which samples depths up to 365m. While NOAA Fisheries has an extensive fishery dependent observer program, the lobster and Jonah crab fisheries have not historically been considered a sampling priority.

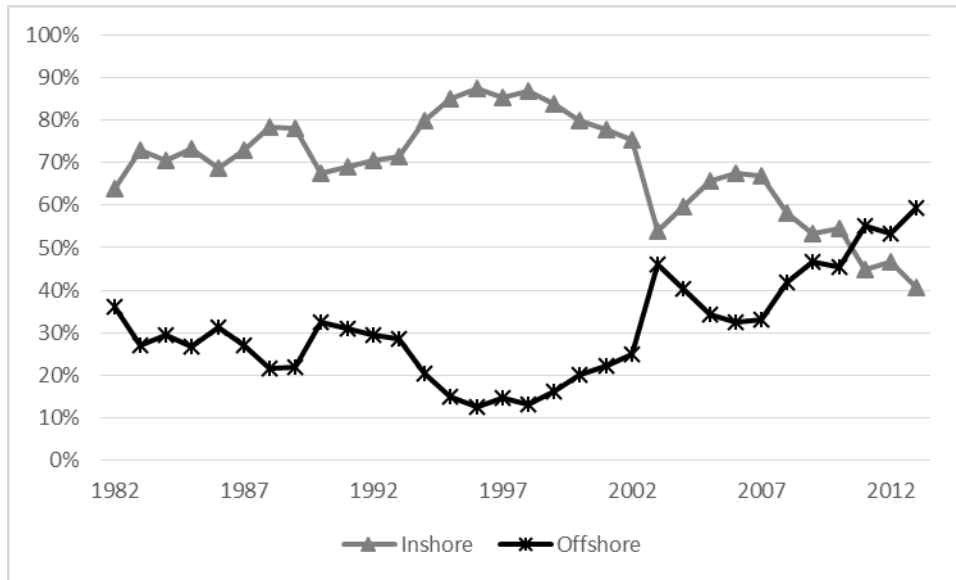
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**Table 5:** Location and depth of trawl surveys and ventless trap surveys by jurisdiction.

		<b>Location</b>	<b>Depth</b>
<b>Trawl Surveys</b>	<b>ME-NH Inshore Trawl Survey</b>	Downeast Maine to New Hampshire	4 strata: 5-20 fathoms, 21-35 fathoms, 36-55 fathoms, > 56 fathoms out to the 12 mile territorial limit.
	<b>MA Trawl Survey</b>	Cape Ann to Buzzards Bay	6 strata: 0-30ft, 31-60ft, 61-90ft, 91-120ft, 121-180ft, 191ft-12 mile territorial boundary
	<b>RI Trawl Survey</b>	Narragansett Bay, Rhode Island Sound, Block Island Sound	6 strata; Narragansett Bay: 10-20ft, >20ft; RIS/BIS: 10-30ft, 30-60ft, 60-90ft, 90-120ft, >120ft
	<b>CT-NY Trawl Survey</b>	Groton, CT to Greenwich, CT in both CT and NY waters	4 strata: 0-9m, 9.1-18.2m, 18.3-27.3m, and 27.4+ m
	<b>NJ Trawl Survey</b>	Sandy Hook, NJ to Cape Hemlopen DE	18-90ft
	<b>NEFSC Bottom Trawl Survey</b>	Scotian Shelf to Cape Hatteras	7 strata: <9m, 9-18m, >18-27m, >27-55m, >55-110m, >110-185m, and >185-365m.
<b>Ventless Trap Surveys</b>	<b>ME VTS</b>	SAs 511, 512, 513 excluding estuaries of Kennebec and Penobscot Rivers	3 strata: 1-20m, 21-40m, 41-60m
	<b>NH VTS</b>	SA 513 excluding Great Bay, Piscataqua River, and Hampton Harbor	3 strata: 1-20m, 21-40m, 41-60m
	<b>MA VTS</b>	SA 514, 538 excluding the southwest corner of Cape Cod Bay, Vinyard Sound, and Nantucket Sound	3 strata: 1-20m, 21-40m, 41-60m
	<b>RI VTS</b>	539 state waters of Narragansett Bay and Block Island Sound	3 strata: 1-20m, 21-40m, 41-60m

The dearth of biological sampling offshore is a growing concern given the increasing portion of lobster which is being harvested outside of state waters. In 1998, 87% of lobster harvested in SNE were from the inshore portion of the stock; however, by 2011, a greater portion of lobster (55%) were harvested from the offshore portion of the stock than the inshore portion (Figure 3). A similar trend can be seen in the GOM where the percentage of trips occurring at distances greater than 3 miles from shore has increased from 13% in 2008 to 20% in 2015. This issue is

further compounded by the fact that the Jonah crab fishery is primarily conducted in federal waters.



**Figure 3:** Percentage of landings in SNE occurring in the inshore and offshore fishery. The inshore fishery is defined as landings from statistical areas 538, 539, 611, 612, 613, 614, 621, 625, 631, and 635. The offshore fishery is defined as landings from statistical areas 533, 534, 537, 615, 616, 622, 623, 624, 626, 627, and 632.

**2.6.1 External Biological Data Collection Programs**

Given financial and geographic constraints on sampling conducted by states, external institutions have begun to implement their own fishery dependent sampling programs in order to collect greater information on the lobster and Jonah crab fisheries. One example of this is the Commercial Fisheries Research Foundation (CFRF), a non-profit foundation which conducts collaborative fisheries research projects. Established by commercial fishermen, CFRF collaborates with industry members to collect biological data and support fisheries research. One of the programs conducted by CFRF has been their On-Deck Data Program, through which participating commercial lobster and/or Jonah crab vessels conduct at-sea sampling during specific trips each month. The On-Deck Data application randomly selects trawls to sample throughout a trip and fishermen collect biological information on carapace length/width, sex, shell disease, presence of eggs, v-notching, shell hardness, and disposition. Participating vessels also deploy ventless traps which expand the spatial extent of the state’s ventless trap programs to areas further offshore. In addition, participating vessels collect Jonah crabs to determine maturity status. Currently, 17 vessels participate in the CFRF program. As of August 2017, 97,913 lobster and 39,493 Jonah crab have been sampled. Biological information collected from CFRF was incorporated into the 2015 American Lobster Stock Assessment.

The geographic range of the CFRF program stretches from New Hampshire to New Jersey. Table 6 shows specific statistical areas in which CFRF participating vessels sample as well as the

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magnitude of sampling in those areas. The largest amount of sampling occurs in statistical areas 537 and 539 (south of Cape Cod and Rhode Island) with additional sampling occurring in GBK (statistical areas 525 and 526) and offshore GOM (statistical areas 464 and 512). Limited levels of sampling occurs off of Long Island (statistical area 613) (Table 6).

**Table 6:** The geographic distribution of CFRF lobster and Jonah crab sampling, by statistical area, as of September 6, 2017. Data provided by CFRF.

Statistical Area	Commercial Lobster Sessions	Ventless Lobster Sessions	Lobsters Sampled	Commercial Jonah Crab Sessions	Ventless Jonah Crab Sessions	Jonah Crabs Sampled
464	38	5	3,939	11	1	951
465	10	9	1,552	4	0	129
512	40	27	5,179	10	0	440
515	15	21	1,306	4	0	128
522	1	0	83	0	0	0
525	113	24	3,483	64	16	5,323
526	48	21	2,970	19	16	2,005
537	335	342	17,954	86	64	7,729
539	739	1073	43,295	365	102	18,568
561	25	2	2,666	27	0	1,006
562	107	168	9,135	30	40	2,575
613	36	50	1,756	10	24	805
616	76	137	6,357	2	0	173
622	5	2	392	3	2	797
626	1	0	12	0	0	0

**2.6.2 Identification of Data Gaps In Offshore Sampling**

In order to provide guidance on where additional biological sampling efforts should be conducted in the lobster fishery, the TC reviewed the spatial distribution of various sampling efforts, including sea sampling, port sampling, and CFRF data programs, in relation to current landings. The TC set a baseline sampling threshold of 3 samples from each statistical area in each season. This threshold was identified as, for statistical areas which do not meet this baseline in the stock assessment, data is borrowed from other statistical areas. Results of the analysis showed that 13 statistical areas did not meet the 3-sample baseline in both 2015 and 2016, and an additional 17 statistical areas did not meet this sampling baseline in either 2015 or 2016 (see Appendix 3, Table 1). Many of these statistical areas are found in GBK and some are found in SNE. Statistical areas the TC noted as high priority for increased sampling (based on high landings and low sampling) included 522, 525, 526, 561, and 562 in GBK, and 616 in SNE. In addition, the TC’s analysis noted the variance in federal sampling through the Standardized Bycatch Reporting Methodology (SBRM) program from year to year as well as the critical role which CFRF plays in collecting biological samples. More specifically, the SBRM program assigned 619 sampling trips to the lobster fishery in 2015 but less than 50 sampling trips in 2016. Further, if the CFRF program did not exist, an additional 2.77 million pounds of lobster caught in GBK and SNE would not be sampled.

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### 2.7 Atlantic Large Whale Take Reduction Team

The Atlantic Large Whale Take Reduction Team (ALWTRT) was established in 1996 in order to reduce the risk of serious injury and death of large whales due to entanglement in commercial fishing gear. The Take Reduction Plan (TRP), which was first published in 1997, specifies gear modifications and restrictions, such as weak links, gear markings, and seasonal prohibitions on locations where traps can be set.

A critical component of the TRP is the co-occurrence model, which pairs information regarding the distribution of whales and commercial fishing gear to predict areas where whales may be prone to entanglement. In May 2016, a subset of the ALWTRT met to discuss deficiencies in the collection of fishing effort data as it pertains to the co-occurrence model. To this end, the ALWTRT identified specific data elements which would inform the co-occurrence model but are not consistently collected by the states and NMFS. These include information regarding the number of traps per trawl, number of vertical lines, length of vertical lines, rope gauge, weight of traps, and buoy configuration. In April 2017, the ALWTRT met to consider ways to collect fishery effort data independent of the states. An outcome of that meeting was the potential development and implementation of an annual recall survey which would be sent to fishermen to collect information regarding fishing activity and gear used per month. Currently, the ALWTRT is developing this annual survey; information being considered for collection in that survey include the color of the buoy line and buoy, the weight of each trap, the number of traps per trawl, the buoy configuration, the buoy line diameter, the weight of anchor lines, and general fishing areas. The survey is still under development and it is expected the survey would be implemented December 2018 or thereafter.

This addendum provides an opportunity to proactively address some of the data needs of the ALWTRT; however, much of the information requested by the ALWTRT is more specific than what is typically required in a harvester trip report. Furthermore, state trip reports are often used for multiple species, limiting the ability to specifically ask questions regarding lobster gear configurations. There may be an opportunity to collaborate on the collection of some data (i.e. traps per trawl, number of endlines), particularly if electronic reporting is pursued by the states.

### 2.8 Reporting Work Group

Recognizing the need to assess current data collection in the lobster and Jonah crab fisheries, the Board established a Reporting Work Group to discuss data deficiencies and ways to improve them. The Work Group, which met in September 2016, was comprised of state agency staff, TC members, Board members, federal representatives, ACCSP staff, and ASMFC staff. As a part of their discussion, the Work Group developed five goals for harvester reporting.

- 1) Improve the spatial resolution of harvester reporting
- 2) Utilize the latest technology to improve and increase reporting
- 3) Collect greater effort data in harvester reports
- 4) Define inshore vs. offshore areas in the lobster fishery
- 5) Proactively address data concerns of the ALWTRT

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In order to achieve these goals, the Work Group compiled a list of recommendations (Table 7). The recommendations were categorized as short-term (less than 1 year), intermediate (1-2 years), and long-term (greater than 2 years). The short-term recommendations sought to maximize commercial harvester reporting under the current framework and provide a uniform set of definitions for inshore vs. nearshore vs. offshore areas. The intermediate recommendations intended to build upon the existing reporting programs by requiring increased harvester reporting and the collection of additional data components. The long term recommendations sought to incorporate new technology into the lobster fishery in order to efficiently and effectively report landings, monitor compliance, and identify critical areas for the lobster fishery. These goals and recommendations provided a basis for the development of this addendum.

**Table 7:** Recommendations from the Lobster Reporting Work Group on ways to improve reporting in the lobster fishery.

<b>Short Terms Recommendations</b>
-Maximize ME's 10% harvester reporting by only including commercial license holders who have actively fished in the past two years
-Defined the inshore fishery as 0-3 miles, the nearshore fishery as 3-12 miles, and the offshore fishery as >12 miles
<b>Intermediate Recommendations</b>
- Require 100% active harvester reporting for all state and federally permitted lobster license holders; for resource limited jurisdictions unable to achieve 100% harvester reporting, at a minimum, states should require reporting from a statistically valid sample of harvester reporting
- Add the following data components to current harvester reporting coastwide: number of trap hauls, soak time, catch disposition, gear configuration, number of vertical lines, LCMA, depth
- Further delineate NMFS statistical areas on harvester trip reports
<b>Long Term Recommendations</b>
- Establish an electronic swipe-card system for harvester and dealer reports
- Incorporate VMS or another locator beacon to all lobster vessels
- Establish an electronic fixed-gear VTR for all federal permit holders

## 2.9 Status of the Stocks

### ***American Lobster***

The 2015 peer-reviewed stock assessment report indicated a mixed picture of the American lobster resource, with record high stock abundance throughout most of the GOM and GBK and record low abundance and recruitment in SNE.

The assessment found the GOM/GBK stock is not overfished and not experiencing overfishing. GOM and GBK were previously assessed as separate stock units; however, due to evidence of seasonal migrations by egg-bearing females between the two stocks, the areas were combined into one biological unit. While model results show a dramatic overall increase in stock abundance in the GOM/GBK, population indicators show young-of-year estimates are trending

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downward. This could indicate a potential decline in recruitment and landings in the coming years.

Conversely, the assessment found the SNE stock is severely depleted. Recruitment indices show the stock has continued to decline and is in recruitment failure. The inshore portion of the SNE stock is in particularly poor condition with surveys showing a contraction of the population. This decline could impact the offshore portion of the stock if it is dependent on recruitment from inshore areas.

### ***Jonah Crab***

Jonah crab are distributed in the waters of the Northwest Atlantic Ocean primarily from Newfoundland, Canada to Florida. The life cycle of Jonah crab is poorly described, and what is known is largely compiled from a patchwork of studies that have both targeted and incidentally documented the species. Female crab (and likely some males) are documented moving inshore during the late spring and summer. Motivations for this migration are unknown, but maturation, spawning, and molting have all been postulated. It is also widely accepted these migrating crab move back offshore in the fall and winter. Due to the lack of a widespread and well-developed aging method for crustaceans, the age, growth, and maturity of Jonah crab is poorly described. As a result, the status of the Jonah crab resource is relatively unknown and no range wide stock assessment has been conducted.

## **2.10 Status of Commercial Fishery**

### ***American Lobster***

The American lobster fishery has seen incredible expansion in landings over the last 40 years, with coastwide landings rising from roughly 39 million pounds in 1981 to over 158 million pounds in 2016. Ex-vessel value in 2016 set a new record at over \$660 million. Much of this increase can be attributed to high landings in the GOM, and in particular, the state of Maine; since 1981, Maine lobster landings have risen over 500% from 22.6 million in 1981 to 131.9 million in 2016. In contrast, landings in states such as Connecticut and New York have dramatically decreased from their peak in the 1990s. In 1996, New York lobster landings were 9.4 million pounds but in 2016, only 218,354 pounds were landed in the state. A similar trend can be seen in Connecticut. These rapid decreases in landings are the result of several factors including warming waters, increased predation, and continued fishing pressure.

### ***Jonah Crab***

Historically, Jonah crab was taken as bycatch in the lobster fishery; however, in recent years a directed fishery has emerged causing landings to rapidly increase. Throughout the 1990's, landings fluctuated between approximately 2 and 3 million pounds and the overall value of the fishery was low. In the early 2000's landings began to increase with over 7 million pounds landed in 2005. By 2014, landings had almost tripled to 17 million pounds and a value of nearly \$13 million dollars. This rapid and recent increase in landings can be attributed to an increase in the price of other crab (such as Dungeness), creating a substitute market for Jonah crab, as well as a decrease in the abundance of lobsters in SNE, causing fishermen to supplement their income with Jonah crab. Today, Jonah crab and lobster are considered a mixed crustacean

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fishery in which fishermen can target lobster or crab at different times of the year based on slight gear modifications and small shifts in the areas in which the traps are fished. While the majority of Jonah crab is harvested as whole crabs, fishermen from numerous states, including Maine, New York, New Jersey, Delaware, Maryland and Virginia land claws.

### 3.0 Management Options

This section proposes to replace Section 4.1 of Addendum X to American Lobster Amendment 3 and Section 3.4.1 of the FMP for Jonah Crab. The intent of these management options is to improve harvester reporting and biological data collection.

#### 3.1 Dealer and Harvester Reporting

The following outline the requirements for dealer reporting in the lobster and Jonah crab fisheries.

1. There is 100% mandatory dealer reporting. Dealer reports include: unique trip ID (link to harvester report), date, species, quantity (lbs), state and port of landing, areas fished (NMFS stat area), price per pound, and market grade and category.
2. There is a two-ticket system for dealer and harvester reports. This is used to provide verification between the two landings information. Harvesters report trip data and catch estimates (in pounds) and dealers report landing weights (in pounds).
3. Harvester and dealers are required to report standardized data elements for each trip on a monthly basis.
4. Permit holders are linked to federal vessel or individual permit/license level reporting for lobsters using ACCSP protocol (<http://www.accsp.org/cfstandards.htm>).
5. ACCSP stores lobster landings information.

##### 3.1.1 Electronic Reporting

This document considers increases in the percent of active harvester reporting in the lobster and Jonah crab fisheries (see *Issue 1*). Given increases in harvester reporting under the current methodology (ie: paper reports) may result in large costs to some states, it is highly recommended that states implement electronic reporting. Electronic reporting represents a cost effect method to collect data as it reduces the need for staff to convert paper reports into an electronic format. Furthermore, electronic reporting provides the flexibility to collect expanded data elements. This could be particularly important given the ALWTRT is currently considering an annual survey to collect information on gear configurations and electronic reporting may provide an opportunity to streamline some of these data collection. At present, electronic reporting is not widely used throughout the lobster and Jonah crab fisheries. In Massachusetts, 24% of lobster-only permit holders (i.e. permit holders who do report through VTR) submit harvester reports electronically. In Rhode Island, 56% of state-only permit holders report electronically. No lobster fishermen in Maine, which has roughly 6,000 license holders, or Connecticut report electronically.

Should states implement electronic reporting, it is recommended that states use the SAFIS application eTrips, or eTrips Mobile, given this platform can be implemented at little to no cost to the states or fishermen, it is approved by GARFO as a platform to submit eVTRs, and there is



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a well-established working relationship between ASMFC and ACCSP. States may choose to use an electronic reporting platform other than eTrips; however, this platform must implement the ACCSP Data Standards and be compatible with the eTrips Application Programming Interface (eTrips API), in order for the data to be seamlessly consolidated with other sources.

States wishing to use a different platform may submit a proposal to the Board which outlines why the state is pursuing a different electronic reporting platform and demonstrates that the platform meets the reporting requirements of this Addendum. Furthermore, states must demonstrate that the alternative electronic reporting platform can accommodate the large scale of the lobster fleet. Proposals must be reviewed and approved by the Board.

### **Issue 1: Percent Harvester Reporting**

*This issues asks what the minimum percentage of harvester reporting should be in the lobster and Jonah crab fisheries. States are encouraged to use electronic reporting as a cost-effective method to increase harvester reporting. Section 3.1.1. outlines the requirements for electronic reporting. For this addendum, an active harvester is defined as an individual who landed lobster and/or Jonah, in any amount, during the past two calendar years*

#### Option A: Minimum 10% Harvester Reporting (Status Quo)

Under this option, at least 10% of active commercial harvesters in the lobster and Jonah crab fisheries are required to report trip level landings, with the expectation of 100% harvester reporting over time. States which currently require greater than 10% harvester reporting are required to maintain that higher level of reporting.

#### Option B: Maintain Current Harvester Reporting Effort and Allocate Reporting Through an Optimal Approach

Under this option, states which currently have 100% harvester reporting are required to maintain this level of reporting. States which have less than 100% harvester reporting are required to maintain, at a minimum, their current effort associated with harvester reporting and distribute reporting across an optimal, rather than a proportional, allocation. For example, an optimal allocation scheme based on license class in Maine would use the percentages below. It is expected that states will work towards 100% harvester reporting over time through the use of electronic reporting.

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Licenses Type and Status	Allocation %
LC1 Active	8.4%
LC1 Latent	4.0%
LC2 Active	36.4%
LC2 Latent	2.7%
LC3 Active	28.2%
LC3 Latent	1.8%
LCO Active	7.6%
LCO Latent	1.7%
LCS Active	5.0%
LCS Latent	2.5%
LCU Active	0.4%
LCU Latent	0.3%
LNC	1.0%

### Option C: 100% Harvester Reporting

**Sub-option 1:** Under this option, 100% of active commercial harvesters in the lobster and Jonah crab fisheries are required to report trip level landings. States which currently require less than 100% active commercial harvest reporting may phase-in the higher level of reporting over 5 years, such that in year 1 there is a minimum requirement of 20% active commercial harvester reporting; in year 2 there is a minimum requirement of 40% active commercial harvester reporting; in year 3 there is a minimum requirement of 60% active commercial harvester reporting; in year 4 there is a minimum requirement of 80% active commercial harvester reporting; and in year 5 there is 100% active commercial harvester reporting.

**Sub-option 2:** Under this option, 100% of active commercial harvesters in the lobster and Jonah crab fisheries are required to report trip level landings; however, if a commercial harvester landed less than 1000 lbs of lobster and Jonah crab in the previous year, that individual can submit a monthly summary of landings data, rather than trip-level reports. States which currently require less than 100% active commercial harvest reporting may phase-in the higher level of reporting over 5 years, such that in year 1 there is a minimum requirement of 20% active commercial harvester reporting; in year 2 there is a minimum requirement of 40% active commercial harvester reporting; in year 3 there is a minimum requirement of 60% active commercial harvester reporting; in year 4 there is a minimum requirement of 80% active commercial harvester reporting; and in year 5 there is 100% active commercial harvester reporting.

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### Issue 2: Harvester Reporting Data Components

*This issue asks what data elements must be collected in harvester reports. Options B and C are not mutually exclusive, meaning the Board can chose Option B, Option C, or Options B and C.*

#### Option A: Status Quo

Harvester trip-level reports must include: a unique trip ID (link to dealer report), vessel number, trip start date, location (NMFS Statistical Area), number of traps hauled, traps set, species, quantity (lbs), and trip length. Soak time is also required on Jonah crab harvester reports. For clarification, ‘traps set’ means the total number of traps that are in the water for a permit holder, including traps that were hauled and re-set as well as traps which are in the water but were not hauled.

#### Option B: Expanded Data Elements

In addition to the data components listed in Option A, trip-level harvester reports must include an expanded set of data elements. These include depth (most common depth fished at during trip), bait type, and soak time. States which conduct an annual recall survey in the lobster/Jonah crab fishery can collect information on bait type through this survey, instead of on trip-level reports. Currently, all states collect information regarding soak time so this option would codify this ongoing practice in the lobster fishery. Option B is not mutually exclusive from Option C, meaning the Board can implement both Options B and C.

#### Option C: Expanded Data Elements Regarding Gear Configuration

In addition to the data components listed in Option A, trip-level harvester reports must include an expanded set of data elements focused on gear configuration. These include number of traps per trawl (most common during trip), and number of buoy lines (total number of buoy lines in the water). The intent of this option is to proactively address some of the data needs of the ALWTRT. States which conduct an annual recall survey in the lobster/Jonah crab fishery can collect information on number of traps per trawl and number of buoy lines through this survey, instead of on trip-level reports. Option C is not mutually exclusive from Option B, meaning either or both Options B and C can be chosen.

### Issue 3: Spatial Resolution of Harvester Data

*This issue asks how, and at what resolution, spatial data in the lobster and Jonah crab fisheries should be collected. Currently, harvesters report by NMFS statistical area; however, this resolution is too coarse to respond to on-going marine spatial planning efforts including offshore wind projects and coral protection zones. Option E can be chosen in combination with Option A, B, C, or D. This allows for a specification of the spatial resolution of harvester reporting along with the development of an electronic tracking pilot program.*

#### Option A: NMFS Stat Area (Status Quo)

Under this option, harvesters will continue to report their fishing location by NMFS statistical area on harvester reports.

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### Option B: NMFS Stat Area and LCMA

Under this option, harvesters will report both the NMFS statistical area and LCMA in which they fish on harvester reports.

### Option C: NFMS Stat Area and Distance from Shore

Under this option, harvesters will report both NMFS statistical area and distance from shore on harvester reports. Distance from shore will be categorized as 0-3 miles from shore, 3-12 miles from shore, or greater than 12 miles from shore. This option allows managers to separate landings between the inshore, nearshore, and offshore fisheries.

### Option D: 10 Minute Squares

Under this option, harvesters will report their fishing location based on 10' squares which divide the North Atlantic coast. The intent of this option is to provide more fine-scale data on where the fishery is occurring. See Appendix 4 for a figure of 10 minute squares along the Atlantic coast.

### Option E: Electronic Tracking

The intent of this option is to pursue electronic tracking in part, or all, of the lobster and Jonah crab fisheries. As a first step, a one year pilot program will be established to test electronic tracking devices on lobster and/or Jonah crab fishing vessels. Given the variety of vessels and the spatial distribution of the fishery (both in distance from shore and breadth along the coast), the pilot program will allow multiple tracking devices to be tested in various conditions to identify which device(s) are applicable to the lobster and Jonah crab fisheries.

To design and implement the pilot program, a Subcommittee of Board members, PDT members, industry, and law enforcement will be convened. Fishermen interested in participating in the program will be identified through state agencies and industry associations. Ideally, fishermen from different states, fishing grounds, and with varying boat sizes will participate in the pilot program. Multiple technologies can be tested when conducting the pilot program; however, the systems must have a fast ping rate (at least 1 ping every minute) and be a low cost to fishermen. In particular, the Subcommittee, during their review and consideration of various technologies, should analyze the costs associated with the electronic tracking systems. The PDT recommends that specific technologies be explored, including solar powered devices and tracking through the eTrips Mobile application, given that these are generally low cost technologies with fast ping rates.

Success of the tracking technology will be evaluated by looking at the ease of compliance (or non-compliance), ability to determine trap hauls from steaming, industry feedback, cost-per fisherman, and law enforcement feedback. Following the one year pilot program, results of the program (including successes, challenges, and participant perspectives) will be presented to the Board. At that time, the Board may decide, through Board action, to end the pilot program, extend the pilot program for another year, or consider adoption of electronic tracking devices in part, or all, of the lobster and Jonah crab fisheries. Should the Board consider adoption of

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electronic tracking in part, or all, of the fisheries, a second round of public comment will be held.

Option E can be chosen in combination with Options A, B, C, or D.

### 3.2 Fishery Dependent Sampling

Non *de minimis* states are required to conduct fishery dependent sampling in the lobster and Jonah crab fisheries. This sampling allows for the collection of biological data on the fisheries and the data is incorporated into stock assessment models. States are required to conduct, at a minimum, 10 sea and/or port sampling trips per year in the lobster/Jonah crab fishery. This minimum sampling requirement is meant to be a baseline and is not representative of the total populations. States which comprise greater than 10% of coastwide landings in either the lobster or Jonah crab fisheries should conduct additional sampling trips complementary to their level of harvest. For example, if a state comprises 20% of coastwide lobster landings, they should conduct 20 sea and/or port sampling trips per year in the lobster/Jonah crab fishery. Sufficient sea sampling can replace port sampling. If a state is unable to complete the required number of sampling trips in the lobster/Jonah crab fishery, they must notify the Board during Annual Compliance reports as to why the sampling trips were not completed and outline future efforts to conduct sampling trips.

#### 3.2.1 Port Sampling

The following outlines the requirements of port sampling.

1. In order to characterize lobster commercial catch, the following data elements must be collected: length, sex, v-notched, egg bearing status, cull status. In addition, the following data elements are recommended for collection in the lobster fishery, but not required: tissue for genetic or toxicity analysis, stomach contents for food habit assessments, gonads for maturity schedule data.
2. In order to characterize Jonah crab commercial catch, the following data elements should be collected, where possible: carapace width, sex, discards, egg-bearing status, cull status, shell hardness, and whether landings are whole crabs or parts.
3. The number of port sampling trips, as well as the number of lobster/Jonah crab sampled, will be reported in Annual State Compliance Reports.

#### 3.2.2. Sea Sampling

The following outlines the requirements of sea sampling.

1. In order to characterize lobster commercial catch, the following data elements must be collected: length, sex, v-notch, egg bearing status, cull status, fishing location, and total trawls or traps sampled. In addition, the following data elements are recommended for collection, but not required: tissue for genetic or toxicity analysis, stomach contents for food habit assessments, gonads for maturity schedule data.
2. In order to characterize Jonah crab commercial catch, the following data elements should be collected, where possible: carapace width, sex, discards, egg-bearing status, cull status, shell hardness, and whether landings are whole crabs or parts.

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3. The number of sea sampling trips, as well as the number of lobster/Jonah crab sampled during sea sampling will be reported in Annual State Compliance Reports.

### 3.3 Fishery Independent Sampling

Non-de minimis states are required to conduct at least one of the following fishery dependent surveys each year in the lobster fishery: an annual trawl survey, a ventless trap survey, and/or a young-of-year survey. States should expand fishery-independent surveys to collect information on Jonah crab, including size distribution, sex composition, ovigerous condition, claw status, shell hardness, and location information.

### 4.0 Compliance

If the existing lobster and Jonah crab management plans are revised by approval of this draft addendum, the American Lobster Management Board will designate dates by which states will be required to implement the addendum. A final implementation schedule will be identified based on the management tools chosen.

### 5.0 Recommendations for Actions in Federal Waters

The management of American lobster and Jonah crab in the EEZ is the responsibility of the Secretary of Commerce through the National Marine Fisheries Service. The Atlantic States Marine Fisheries Commission recommends that the federal government promulgate all necessary regulations in Section 3.0 to implement complementary measures to those approved in this addendum. In addition, ASMFC recommends the following be adopted in federal waters:

- Establish a harvester reporting requirement for lobster-only federal permit holders – There is currently no federal permitting requirement attached to a federal lobster permit. One of the deficiencies identified in this Addendum is that not all lobster and Jonah crab harvesters are required to complete trip level reports. This impedes effective management of the stock as it is unclear where lobster and Jonah crab are being harvested and what effort is associated with the catch. As ASFMC works to improve harvester reporting and data collection, it is recommended that NOAA Fisheries establish a harvester reporting requirement for all federal lobster permit holders to the level approved by the Board or higher in this addendum. This percentage of federal harvester reporting should be achieved in all statistical areas, in particular those in the GOM where the number of federal lobster permit holders who do not report with VTRs is highest.
- Creation of a fixed gear VTR for federal permit holders – As identified by the Reporting Work Group, one of the major hurdles in federal lobster reporting is that a single VTR form is used by a wide variety of gear types. This limits the amount of information that can be collected and creates confusion on how specific data elements apply to the lobster fishery. ASMFC recommends that a fixed-gear VTR form be established to fulfill the data needs specific to these fisheries, including information on soak time, number of hauls, and total gear in water.
- Implementation of a targeted lobster sampling program in federal waters – As outlined in Section 2.6 of this Addendum, the biological sampling programs currently conducted in federal waters are insufficient to characterize commercial catch or understand the

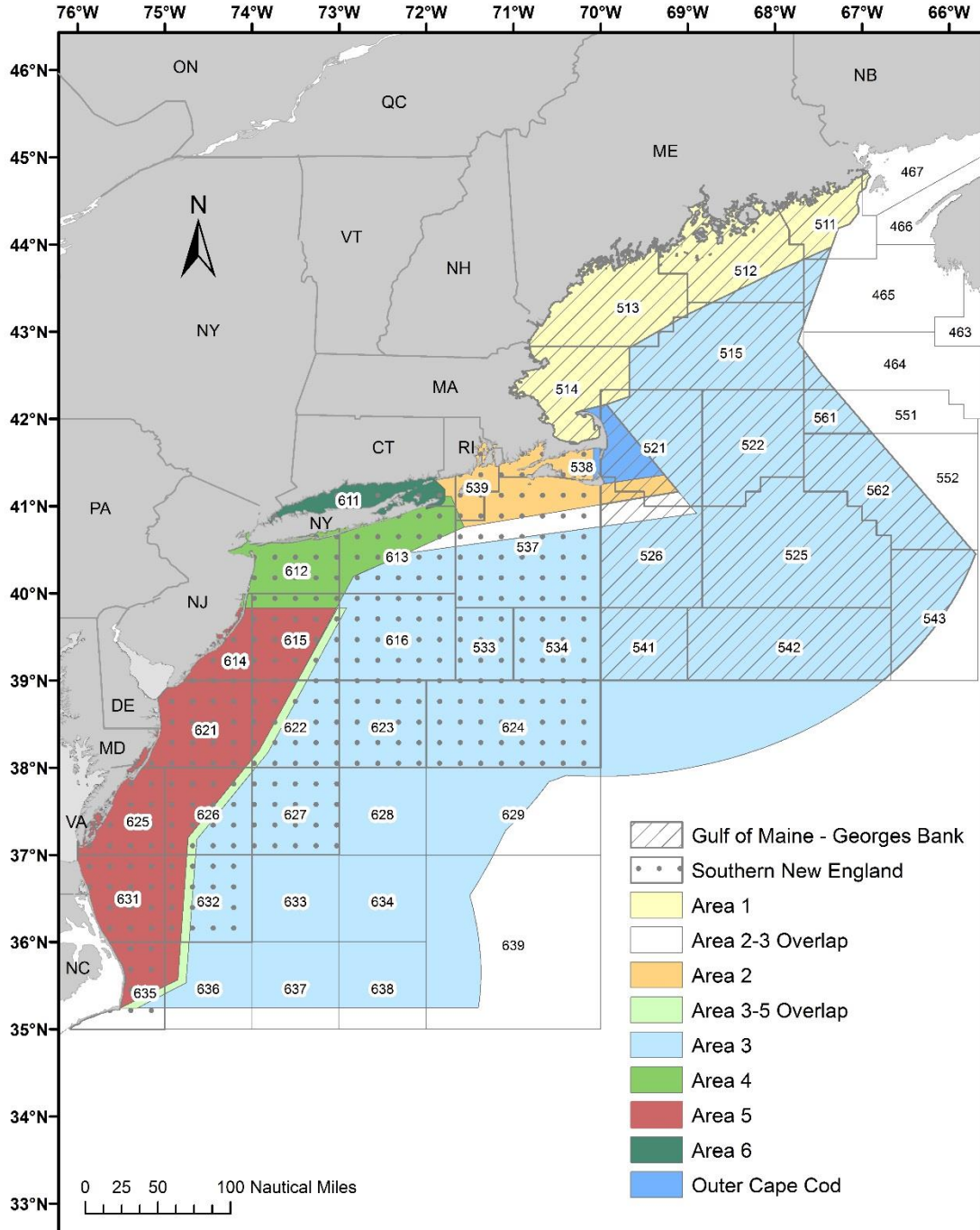
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biological conditions of the offshore stock. This is particularly concerning given an increasing portion of the lobster fishery is being executed in federal waters. ASMFC recommends NOAA Fisheries support a targeted biological sampling offshore program offshore. Appendix 3 outlines recommendations from the TC for a sampling program in offshore waters, including areas where future sampling efforts should be focused.

### 6.0 References

- Atlantic States Marine Fisheries Commission (ASMFC). 1997. Amendment 3 to the Interstate Fishery Management Plan for American Lobster.
- ASMFC. 1999. Addendum I to Amendment 3 to the American Lobster Fishery Management Plan.
- ASMFC. 2006. Addendum VIII to Amendment 3 to the American Lobster Fishery Management Plan.
- ASMFC. 2007. Addendum X to Amendment 3 to the American Lobster Fishery Management Plan.
- ASMFC. 2015. American Lobster Benchmark Stock Assessment and Peer Review Report.
- Atlantic Large Whale Take Reduction Team. Work Group Key Outcomes. May 12-18, 2016. Gloucester, MA. Found at:  
[https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/docs/2016%20Monitoring%20Subgroup%20Meeting/key\\_outcomes.pdf](https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/docs/2016%20Monitoring%20Subgroup%20Meeting/key_outcomes.pdf)
- NOAA Fisheries. Atlantic Large Whale Take Reduction Plan: Northeast Trap/Pot Fisheries Requirements and Management Areas. Found at:  
[https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/docs/Outreach%20Guides%20Updated%20May%202015/northeast\\_trap\\_pot\\_2015\\_2.pdf](https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/docs/Outreach%20Guides%20Updated%20May%202015/northeast_trap_pot_2015_2.pdf)

Appendix 1: American Lobster Biological Stocks and Lobster Conservation Management Areas.





Appendix 2: Maps of Trawl Surveys Conducted by Jurisdictions

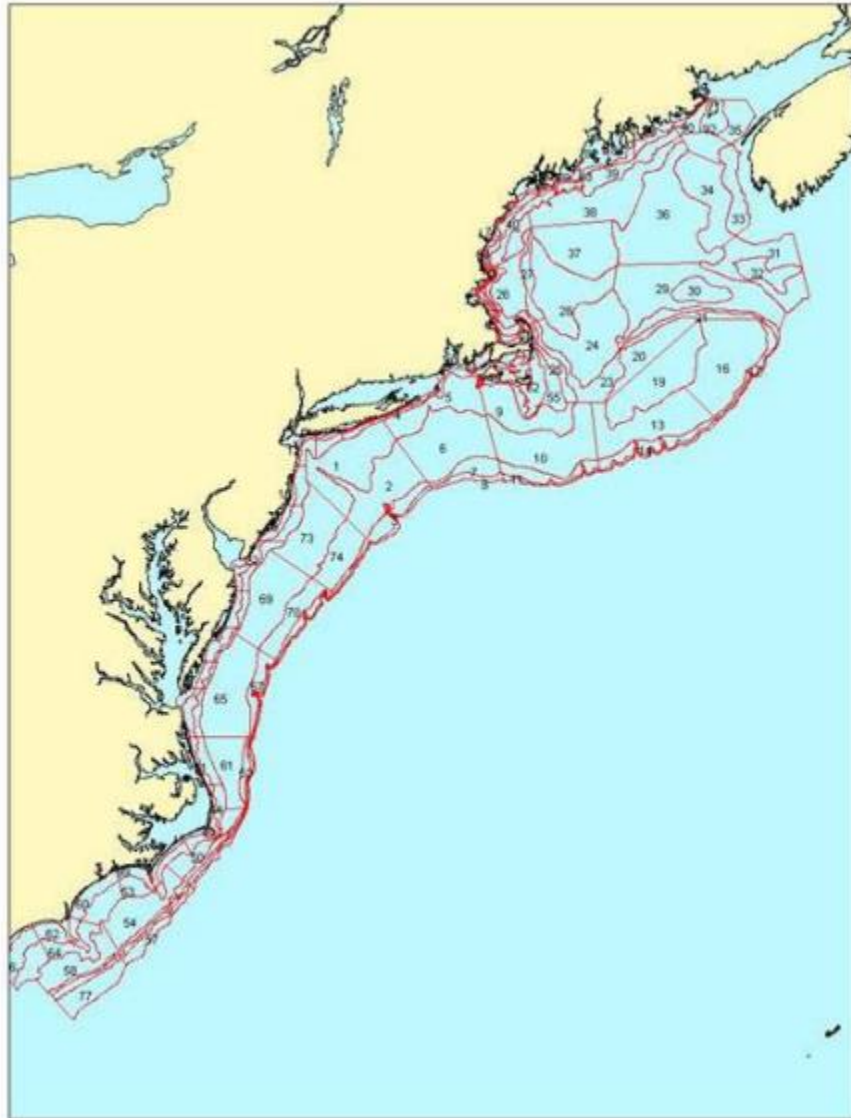


Figure 1: Map of area sampled by the NEFSC Bottom Trawl Survey. The survey is stratified by depth (<9m, 9-18m, >18-27m, >27-55m, >55-110m, >110-185m, >185-365m) and stations are randomly selected within each strata. (Source: NEFSC)

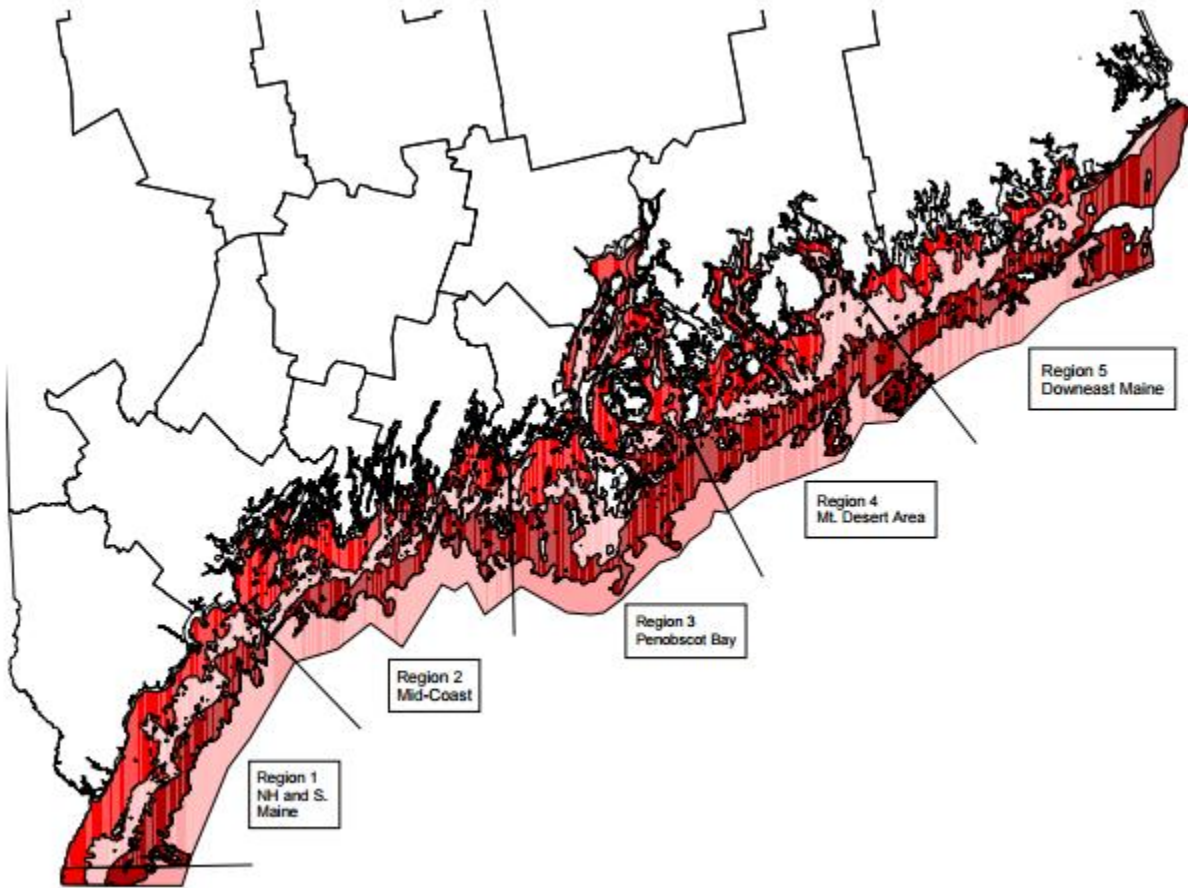


Figure 2: Map of area sampled by the Maine-New Hampshire Inshore Trawl Survey. The survey samples five regions and is stratified by four depth strata (5-20 fathoms, 21-35 fathoms, 36-55 fathoms, and greater than 56 fathoms to the 12 mile line). (Source: ME DMR)

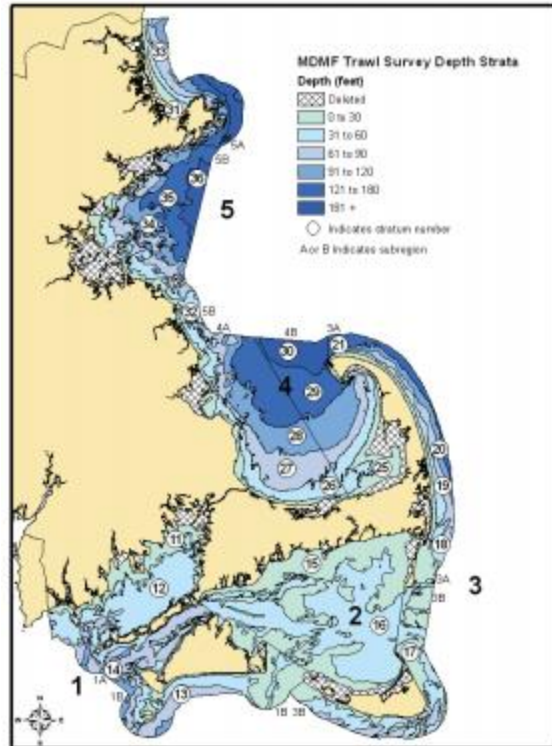


Figure 3: Location of the Massachusetts Trawl Survey. The survey is stratified based on five regions and six depth zones (0-30ft, 31-50ft, 61-90ft, 91-120ft, 121-180ft, >181ft out to 12 mile line). (Source: MA DMF)

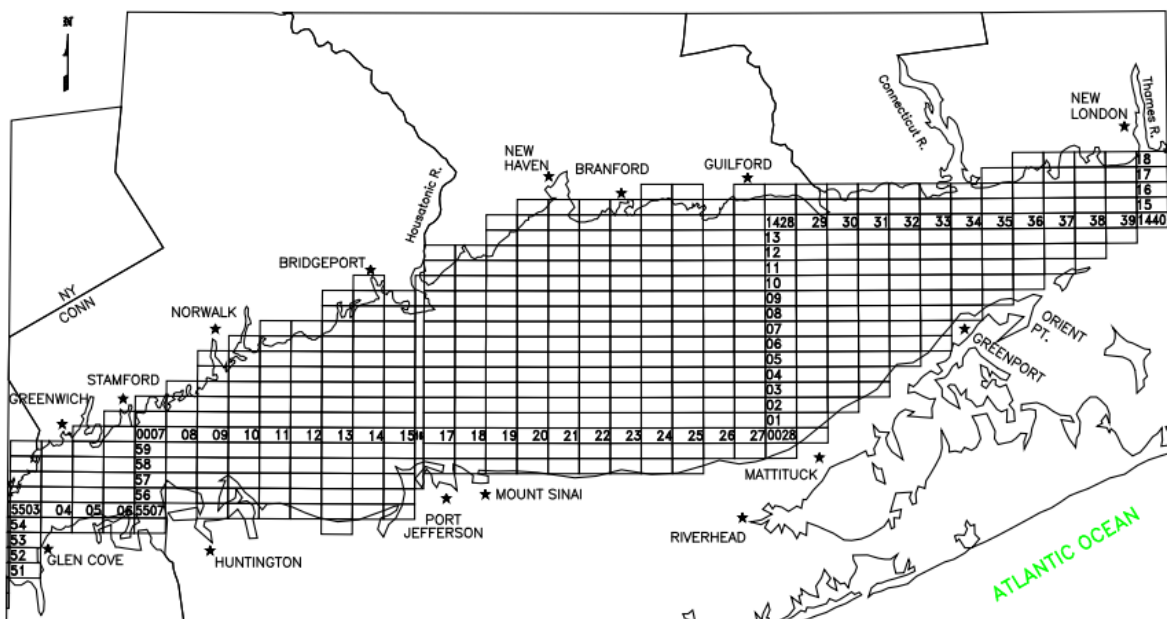


Figure 4: Connecticut – New York trawl survey grid. Each sampling site is 1x2 nautical miles with the first two digits representing the row number and the last two digits representing the column number. (Source: CT DEP)

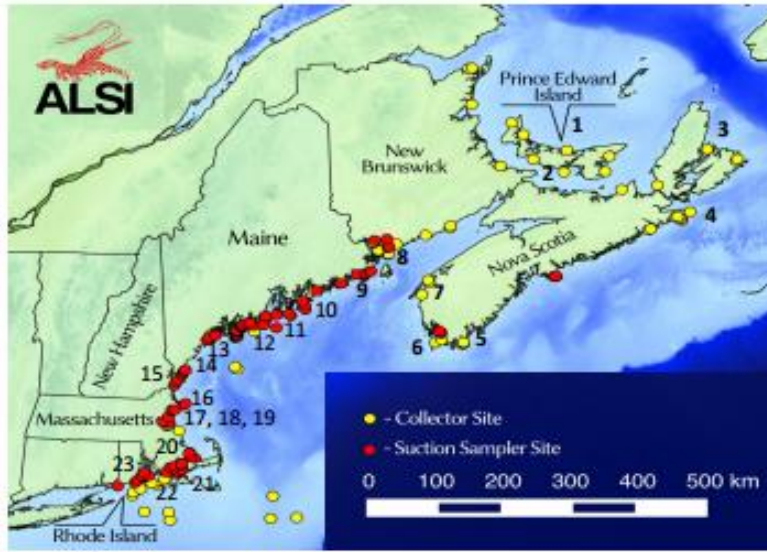


Figure 5: Locations sampled as a part of the 2015 American Lobster Settlement Index. Sites span New Brunswick, Canada down to Rhode Island. (Source: ALSI)

### Appendix 3: Offshore Biological Sampling Program for American Lobster

*The following comprises excerpts of the TC's October 2017 report to the Board and highlights data needs in the offshore lobster fishery. It is intended to provide guidance on where data gaps exist and how they can be addressed.*

**Problem Statement:** In recent years the lobster fishery has expanded offshore; however, limited biological sampling occurs in these areas. This impedes the effective assessment and management of these offshore lobster fisheries.

**Sampling Program:** The TC recommends a federal, targeted lobster biosampling program offshore. It is recommended that this program be independent of the Standardized Bycatch Reporting Methodology (SBRM) observer sampling to ensure adequate sampling of federally-permitted vessels. The sampling frame should include all federally-permitted vessels, not just vessels with VTR requirements and should, at a minimum, randomize vessel selection. The program should be stratified by statistical area. In statistical areas in overlapping waters, state and federal programs should coordinate to ensure complementary sampling programs and increased efficiency to meet the needs of the assessment.

**Baseline Sampling Threshold:** The TC recommends that offshore sampling programs collect the minimum number of samples needed to meet the assessment gap-filling threshold. More specifically, the TC recommends a baseline sampling threshold of 3 samples from each statistical area (with lobster landings) per quarter and year. Statistical areas with lobster landings will be identified from the last year of landings data in the most recent stock assessment. Given that the 3-samples per statistical area/quarter/year is a minimum threshold, sampling should appropriately increase in statistical areas with high lobster harvest.

**Location of Sampling:** The TC recommends offshore sampling programs in much of GBK and parts of SNE. Through analysis which assessed current sampling efforts by stat area, including port sampling, sea sampling, federal SBRM sampling, and CFRF sampling, the TC identified data gaps in the lobster fishery. Sampling holes were prioritized by the magnitude of landings from that statistical area. Table 1 illustrates the results of this analysis, with statistical areas ordered by landings. Statistical areas with the greatest need for increased sampling include 522, 525, 526, 561, 562, and 616. More specifically, four of these statistical areas (522, 525, 526, and 616) do not meet the minimum sampling threshold in three out of the four quarters.

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**Table 1:** Statistical areas by quarter which did not meet the minimum recommended threshold of 3-samples in 2015 and/or 2016. Samples include both port and sea sampling, as well as sampling by SBRM and CFRF. Statistical areas are ordered by magnitude of landings, with areas of high landings at the top of the table.

StatArea	Season	# Port and Sea Samples		# Years 3-Sample Threshold Not Met
		2015	2016	
525	4	9	2	1
525	3	7	2	1
562	1	1	3	1
526	4	21	2	1
522	2	1	0	2
522	3	20	0	1
522	1	1	0	2
616	3	5	1	1
561	4	14	1	1
525	1	3	1	1
561	2	2	5	1
515	4	5	2	1
623	3	0	0	2
515	3	2	3	1
521	1	0	0	2
612	1	4	2	1
465	2	4	0	1
537	1	0	1	2
526	2	5	2	1
616	4	8	1	1
611	2	1	6	1
623	4	0	0	2
623	2	0	0	2
465	3	0	0	2
616	1	2	0	2
526	1	7	1	1
538	4	0	0	2
611	1	0	0	2
538	1	0	0	2
611	4	0	1	2

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**Type of Sampling:** The TC recommends sea sampling as the preferred sampling method as it provides information on discarded lobsters in addition to landed lobsters, which are characterized by port sampling. Port sampling should be considered a secondary sampling method that is used during poor sampling conditions (i.e. winter) or if there is limited funding. Both sex and length data are of primary importance when conducting a sampling program as they are critical for characterizing sex ratios and size composition.

**Revisiting of Sampling Priorities:** Given the on-going shifts in effort in the lobster fishery, the TC recommends that an evaluation be conducted on a regular basis to determine where landings are occurring in the fishery and associated sampling holes. This evaluation should be conducted during each stock assessment (5 year basis). Intermittently, the success of sampling programs at achieving current goals can be assessed through annual compliance reports.

Appendix 4: Atlantic Coast with 10 Minute Square Grid

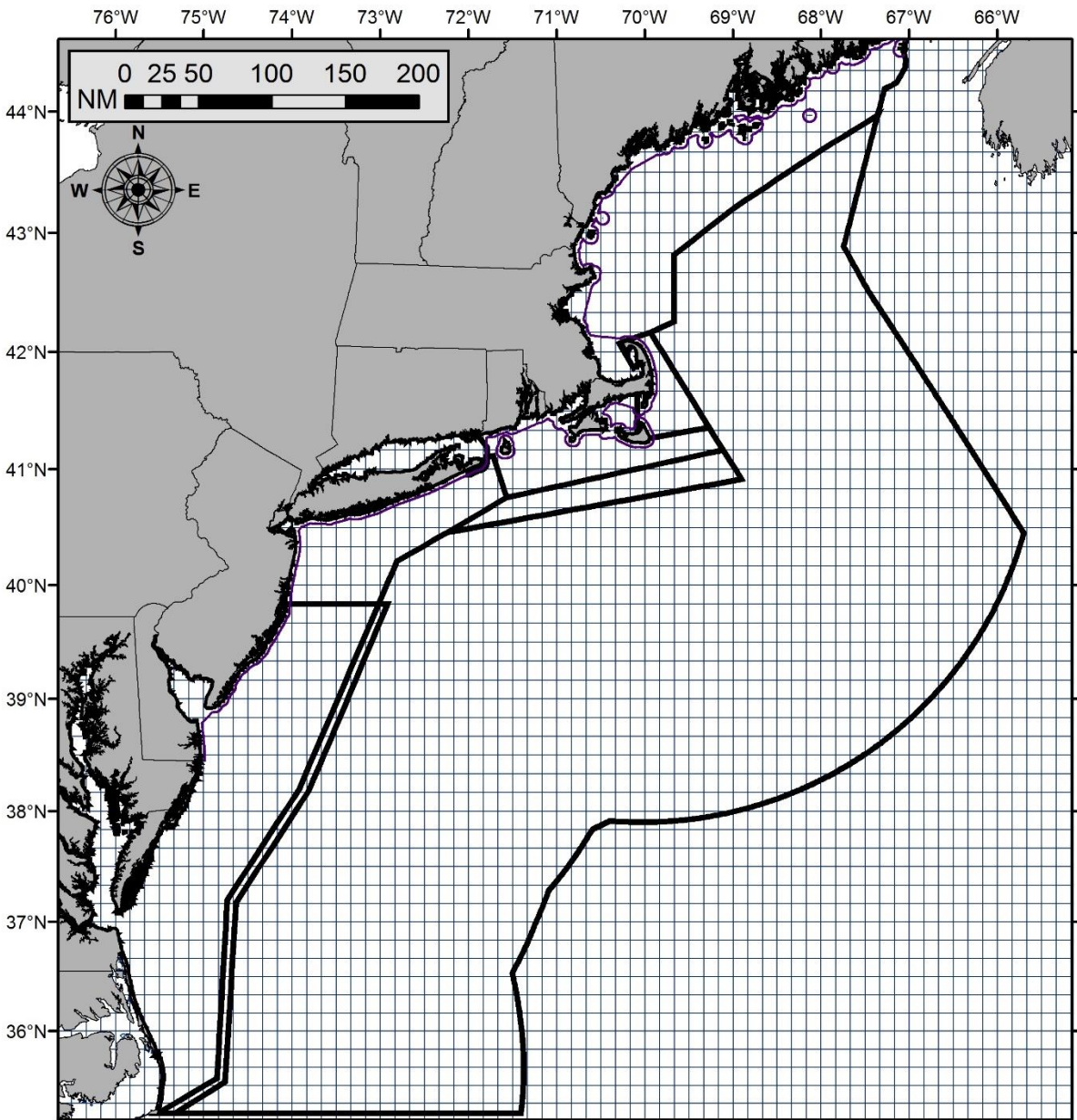


Figure 1: 10 minute squares along the Atlantic coast with outlines of the LCMAs.





# Atlantic States Marine Fisheries Commission

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## MEMORANDUM

January 10, 2018

**To: American Lobster Management Board**  
**From: Law Enforcement Committee**  
**RE: Review of Reporting Options in Lobster Draft Addendum XXVI**

The Law Enforcement Committee (LEC) of the Atlantic States Marine Fisheries Commission (ASMFC) reviewed harvester reporting provisions of American lobster Draft Addendum XXVII during a teleconference meeting on January 8, 2018.

The following were in attendance:

*LEC: Capt. Steve Anthony (NC); Dep. Chief Kurt Blanchard (RI); Lt. Col. Larry Furlong (PA); Lt. Tom Gadowski (NY); Sgt. Greg Garner (SC); Wayne Hettenbach (USDOJ); Maj. Rob Kersey (MD); Capt. Bob Lynn (GA); Capt. Doug Messeck (DE); Katie Moore (USCG); Maj. Patrick Moran (MA); Lt. Patrick O'Shaughnessy (NOAA OLE SE Div); Col. Kyle Overturf (CT); Eric Provencher (NOAA OLE NE Div); Capt. Jason Snellbaker (NJ)*  
*STAFF: Max Appelman; Mark Robson; Mike Schmidtke; Megan Ware*

Megan Ware of ASMFC staff provided an overview of the relevant issues and the LEC provided the following comments:

The LEC did not have any specific recommendations for addressing the level of harvester reporting or the types of additional data that might be desirable or mandatory. The LEC supports efforts to collect as much data as possible, but offered the view that as reporting requirements become more complex with additional data needs, it would be unreasonable to expect strict enforcement of incomplete or incorrect reporting. Regulatory and enforcement standards for non-reporting are in place and effective.

The LEC supports the development and improvement of vessel tracking and statistical area reporting as a means to enhance enforcement and management of the lobster fishery as a whole. While the usefulness of additional data collection for enforcement purposes may vary from state to state, there may be ancillary utility in having additional information at hand such as water depths, bait types and gear soak times.

The LEC welcomes the opportunity to provide enforcement advice regarding the development of tracking and harvester reporting systems for the American lobster fishery.



# Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201  
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*James J. Gilmore, Jr. (NY), Chair*

*Patrick C. Keliher (ME), Vice-Chair*

*Robert E. Beal, Executive Director*

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*Vision: Sustainably Managing Atlantic Coastal Fisheries*

January 18, 2018

**To: American Lobster Management Board**

**From: American Lobster Stock Assessment Subcommittee**

**RE: Draft Terms of Reference for the 2020 American Lobster Benchmark Stock Assessment and Assessment Schedule**

The next American lobster benchmark stock assessment is scheduled to be completed in the spring of 2020. The American Lobster Stock Assessment Subcommittee has recommended the Board consider the following terms of reference for the assessment and peer-review panel:

**Terms of Reference for Stock Assessment Process:**

1. Estimate catch and catch-at-length from all appropriate fishery dependent data sources including commercial and potential discard data.
  - a. Provide descriptions of each data source (e.g. geographic location, sampling methodology, variability, outliers). Discuss data strengths and weaknesses (e.g. temporal and spatial scale, gear selectivities, sample size) and their potential effects on the assessment.
  - b. Justify inclusion or elimination of each data source.
  - c. Explore improved methods for calculating catch-at-length matrix.
2. Present the abundance data being considered and/or used in the assessment (e.g. regional indices of abundance, recruitment, state-federal and other surveys, length data, etc.).
  - a. Characterize uncertainty in these sources of data.
  - b. Justify inclusion or elimination of each data source.
  - c. Describe calculation or standardization of abundance indices.
3. Evaluate new information on life history such as growth rates, size at maturation, natural mortality rate, and migrations.
4. Identify, describe, and, if possible, quantify environmental/climatic drivers.
5. Use length-based model(s) to estimate population parameters (e.g., effective exploitation rate, abundance) for each stock unit and analyze model performance.
  - a. Evaluate stability of model(s). Perform and present model diagnostics.
  - b. Perform sensitivity analyses to examine implications of important model assumptions, including but not limited to growth and natural mortality.
  - c. Explain model strengths and limitations.



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- d. Justify choice of CVs, effective sample sizes, or likelihood weighting schemes.
  - e. State assumptions made and explain the likely effects of assumption violations on synthesis of input data and model outputs.
  - f. Conduct projections assuming uncertainty in current and future conditions for all stocks. Compare projections retrospectively with updated data.
6. Update and develop simple, empirical, indicator-based trend analyses of reference abundance, effective exploitation, and develop environmental drivers for stock areas.
  7. Update the current exploitation and abundance reference points (i.e., targets and thresholds). Explore and, if possible, develop alternative reference points and reference periods that may account for changing productivity regimes due to environmental effects.
  8. Characterize uncertainty of model estimates, reference points, and stock status.
  9. Perform retrospective analyses, assess magnitude and direction of retrospective patterns detected, and discuss implications of any observed retrospective pattern for uncertainty in population parameters and reference points.
  10. Report stock status as related to overfishing and depleted reference points (both current and any alternative recommended reference points). Include simple description of the historical and current condition of the stock in layman's terms.
  11. Address and incorporate to the extent possible recommendations from the 2015 Benchmark Peer Review.
  12. Develop detailed short and long-term prioritized lists of recommendations for future research, data collection, and assessment methodology. Highlight improvements to be made by next benchmark review.
  13. Recommend timing of next benchmark assessment and intermediate updates, if necessary relative to biology and current management of the species.

## **Terms of Reference for External Peer Review:**

1. Evaluate thoroughness of data collection and presentation and treatment of fishery-dependent and fishery-independent data in the assessment, including the following but not limited to:
  - a. Consideration of data strengths and weaknesses,
  - b. Justification for inclusion or elimination of available data sources,
  - c. Calculation of catch-at-length matrix,
  - d. Calculation and/or standardization of abundance indices.



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2. Evaluate the methods and models used to estimate population parameters and reference points for each stock unit, including but not limited to:
  - a. Use of available life history information to parameterize the model(s)
  - b. Model parameterization and specification (e.g. choice of CVs, effective sample sizes, likelihood weighting schemes, etc.).
  - c. The choice and justification of the preferred model. Was the most appropriate model used given available data and life history of the species?
3. Evaluate the identification and characterization of environmental/climatic drivers.
4. Evaluate the estimates of stock abundance and exploitation from the assessment for use in management. If necessary, specify alternative estimation methods.
5. Evaluate the methods used to characterize uncertainty in estimated parameters. Were the implications of uncertainty in technical conclusions clearly stated?
6. Evaluate the diagnostic analyses performed, including but not limited to:
  - a. Sensitivity analyses to determine model stability and potential consequences of major model assumptions
  - b. Retrospective analysis
7. Evaluate the preparation and interpretation of indicator-based analyses for stocks and sub-stock areas.
8. Evaluate the current and recommended reference points and the methods used to calculate/estimate them. Recommend stock status determination from the assessment or specify alternative methods.
9. Review the research, data collection, and assessment methodology recommendations provided by the Technical Committee and make any additional recommendations warranted. Clearly prioritize the activities needed to inform and maintain the current assessment, and provide recommendations to improve the reliability of future assessments.
10. Review the recommended timing of the next benchmark assessment relative to the life history and current management of the species.
11. Prepare a Peer Review Panel TOR and Advisory Report summarizing the Panel's evaluation of the stock assessment and addressing each Peer Review Term of Reference. Develop a list of tasks to be completed following the workshop. Complete and submit the Report within 4 weeks of workshop conclusion.



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## 2020 American Lobster Benchmark Stock Assessment Draft Schedule

<b>Event/Product</b>	<b>Required Participants **</b>	<b>Date/Deadline †</b>
Assessment Planning/TC Workshop	TC and SAS	November 2017
Terms of Reference presented to Lobster Management Board for approval	ASMFC Science Staff and Lobster Management Board	Winter Meeting 2018
Data Deadline*	TC	April 1, 2018
Pre-Researcher/Data Workshop Webinar***	TC and SAS	April 2018
Researcher/Data Workshop	TC and SAS	May 14-17, 2018
Post-Researcher/Data Workshop Webinar***	TC and SAS	July 2018
Pre-Data/Assessment Workshop Webinar***	SAS	November 2018
Data/Assessment Workshop	SAS	January 2019
Post-Data/Assessment Workshop Webinar***	SAS	February 2019
Pre-Assessment Workshop Webinar***	SAS	August 2019
Assessment Workshop	SAS	September 2019
Final Assessment Webinar***	SAS	November 2019
Webinar for TC review of draft assessment report	TC and SAS	February 2020
Peer Review Planning Webinar	SAS and Peer Review Panel	April 2020
Peer Review Workshop	Lead analysts, SAS Chair, TC Chair, Peer Review Panel	May 2020
Lobster Management Board Meeting to Review Assessment	SAS Chair, Peer Review Panel Chair, and Lobster Management Board	August 2020

\*Data terminal year is 2018 (with the potential to add incomplete 2019 data). Data through 2017 will be provided ahead of the first workshop and 2018 (and potentially some 2019 data) will be provided when available in 2019.

\*\*\*Webinars may be added or cancelled depending on needs

\*\*ASMFC Science and ISFMP Staff participants during all

† Dates are tentative and subject to change without public notice

# Atlantic States Marine Fisheries Commission

## Atlantic Herring Section

*February 6, 2018  
1:00 – 2:00 p.m.  
Arlington, Virginia*

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

- |                                                                                      |           |
|--------------------------------------------------------------------------------------|-----------|
| 1. Welcome/Call to Order ( <i>R. Beal</i> )                                          | 1:00 p.m. |
| 2. Board Consent                                                                     | 1:00 p.m. |
| • Approval of Agenda                                                                 |           |
| • Approval of Proceedings from October 2017                                          |           |
| 3. Public Comment                                                                    | 1:05 p.m. |
| 4. Elect Chair and Vice-Chair ( <i>R. Beal</i> ) <b>Action</b>                       | 1:15 p.m. |
| 5. Review Effectiveness of Current Spawning Closure Procedure <b>Possible Action</b> | 1:20 p.m. |
| • Technical Committee Report ( <i>R. Zobel</i> )                                     |           |
| 6. Other Business/Adjourn                                                            | 2:00 p.m. |

The meeting will be held at the Westin Crystal City, 1800 Jefferson Davis Highway Arlington, Virginia; 703.486.1111

# MEETING OVERVIEW

**Atlantic Herring Section Meeting**  
**February 6, 2018**  
**1:00-2:00 p.m.**  
**Arlington, Virginia**

Chair: Vacant	Technical Committee Chair: Renee Zobel (NH)	Law Enforcement Committee Michael Eastman
Vice Chair: Vacant	Advisory Panel Chair: Jeff Kaelin (NJ)	Previous Section Meeting: October 16, 2017
Voting Members: ME, NH, MA, RI, CT, NY, NJ (7 votes)		

## 2. Section Consent

- Approval of Agenda
- Approval of Proceedings from October 2017

**3. Public Comment** – At the beginning of the meeting public comment will be taken on items not on the Agenda. Individuals that wish to speak at this time must sign in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Section Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Section Chair may allow limited opportunity for comment. The Section Chair has the discretion to limit the number of speakers and/or the length of each comment.

<b>4. Elect Chair and Vice-Chair (1:15-1:20 p.m.) Action</b>
<b>Background</b> <ul style="list-style-type: none"><li>• Ritchie White’s chairmanship ended October 2017</li><li>• Both the Chair and Vice-Chair seats are vacant</li></ul>
<b>Board Actions for Consideration at this Meeting</b> <ul style="list-style-type: none"><li>• Elect Chair and Vice-Chair</li></ul>

<b>5. Technical Committee Report on Effectiveness of the Current Spawning Closure Procedure (1:20-2:00 p.m.) Possible Action</b>
<b>Background</b> <ul style="list-style-type: none"><li>• At the October 2017 meeting, the Board requested the TC review the current spawning closure procedure in Amendment 3.</li><li>• The TC met via conference call on January 17<sup>th</sup> to review the spawning closure procedure and relevant spawning data.</li></ul>

<b>Presentations</b>
<ul style="list-style-type: none"><li>• TC report by R. Zobel (<b>Supplemental Materials</b>)</li></ul>
<b>Board actions for consideration at this meeting</b>
<ul style="list-style-type: none"><li>• Consider changes to the spawning closure procedure</li></ul>






**6. Other Business/Adjourn**



## Atlantic Herring Technical Committee Task List

Activity Level: Medium

Committee Overlap Score: Medium

### Committee Task List

- Evaluation of current spawning closure protocols (completed for Winter Section Meeting)
- 2018 Atlantic Herring Stock Assessment – While the assessment is not be conducted by the Commission’s Atlantic Herring SASC, TC members are participating in the Data Workshop (Feb 5-9) and SARC 65 (June 26-29)
- Annual state compliance reports are due February 1

### TC Members

Renee Zobel (NHFG – Chair), Kurt Gottschall (CT DMF), Dr. Matt Cieri (ME DMR), Micah Dean (MA DMF), John Lake (RI DFW)

**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
ATLANTIC HERRING SECTION**

**The Marriott Norfolk Waterside  
Norfolk, Virginia  
October 16, 2017**

**These minutes are draft and subject to approval by the Atlantic Herring Section  
The Section will review the minutes during its next meeting**

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Other Business ..... 14

Adjournment ..... 15

## INDEX OF MOTIONS

1. **Motion to approve agenda** by Consent (Page 1).
2. **Motion to approve proceedings of May 2017** by Consent (Page 1).
3. **Move to allocate the 2018 Area 1A TAC seasonally with 72.8 percent available from June through September and 27.2 percent allocated from October through December. The fishery will close when 92 percent of the seasonal period's quota has been harvested and underages from June through September may be rolled into the October through December period** (Page 2). Motion by Doug Grout; second by Pat Keliher. Motion carried (Page 2).
4. **Move that the Section recommend to the Policy Board to send a letter to the New England Fishery Management Council to establish a Working Group with the goal of improving communication between the two bodies** (Page 13). Motion by Pat Keliher; second by Tom Fote. Motion carried (Page 14).
5. **Move to task the Technical Committee to** (Page 14):
  - **Revisit the 2017 fishing season relative to the goals and objectives of Amendment 3 and comment on the effectiveness of the current spawning management measures;**
  - **Make suggestions on technical or management changes to better meet those goals and objectives;**
  - **If time would allow make research recommendations to maximize effectiveness and better inform management; and**
  - **TC would report back to the Board at the Winter Meeting.**Motion by Pat Keliher; second by Dennis Abbott. Motion carried (Page 15).
6. **Motion to adjourn** by consent (Page 15).

**ATTENDANCE**

**Section Members**

Pat Keliher, ME (AA)	Jason McNamee, RI, proxy for J. Coit (AA)
Sen. Brian Langley, ME (LA)	David Borden, RI (GA)
Doug Grout, NH (AA)	Colleen Giannini, CT, proxy for M. Alexander (AA)
G. Ritchie White, NH (GA)	Sen. Phil Boyle, NY (LA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Jim Gilmore, NY (AA)
Rep. Sarah Peake, MA (LA)	Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
David Pierce, MA (AA)	Tom Baum, NJ, proxy for L. Herrighty (AA)
Raymond Kane, MA (GA)	Tom Fote, NJ (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

Michael Eastman, Law Enforcement Representative

**Staff**

Robert Beal	Jessica Kuesel
Toni Kerns	Kirby Rootes-Murdy

**Guests**

**(Note: Sign-In sheet not distributed)**

Terry Stockwell, NEFMC

The Atlantic Herring Section of the Atlantic States Marine Fisheries Commission convened in the Hampton Roads Ballroom V of the Marriott Waterside Hotel, Norfolk, Virginia, October 16, 2017, and was called to order at 3:51 o'clock p.m. by Chairman G. Ritchie White.

#### **CALL TO ORDER**

CHAIRMAN G. RITCHIE WHITE: Okay, I'm going to call the Atlantic Herring Section meeting to order, if we could all take our seats.

#### **APPROVAL OF AGENDA**

CHAIRMAN WHITE: Starting off we're going to approve the agenda. There is one addition that I have added. Pat Keliher has something to bring forward in Other Business. Are there any other changes or additions to the agenda? Seeing none; the agenda is passed by consent.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN WHITE: Approval of the proceedings from May, 2017, is there any changes or additions to those? Seeing none; the proceedings of May, 2017 are approved by consent.

#### **PUBLIC COMMENT**

CHAIRMAN WHITE: Is there any public comment on items that are not on the agenda? Come up to a microphone, Sir, and identify yourself please. All the way down at the end, if you would please.

MR. PAUL AXELSON: Hello, my name is Paul Axelson; purse seiner Opportune and a carrier vessel, Honored. The seiner is 55 feet, and the carrier boat is 65 feet. The carrier boat can carry 250,000 safely. Me and my family have fished herring for well over 100 years; not just in this country. My grandfather came to this country in 1954.

On and off we've used the herring resource to get by. This year saw a change in the management; wherein carrier boats were

normally part of the show for a smaller boat operation that couldn't carry its own, or carry enough to make it feasible. This year the transfer limit to a carrier boat was limited. It started out at 80,000 went to 120,000.

But the federal permit that I have on my seiner said that I could catch, I don't know I think the season started out at ten trucks a week; and it went up from there, because fishing was poor and such. I don't think that that is fair is basically what I'm saying; and the federal permit that I have on my seiner which is only 55 foot, if I combined the capacity and horsepower of my carrier boat and my catch boat would still be under that capacity of that permit.

It is kind of hard to make it when you're 300, 400 miles from home and you were planning on this and it changed to something a lot less. Draft Addendum I, I was under the impression to limit effort to extend the season and such, which I have no problems with, said you work with one carrier boat; and I was fine with that. That wasn't a problem for me. I was like okay; I can work with my carrier boat. I can do the job.

But I guess under the rogue thing or the difference there was the added limit of two or three trucks a week that that is all you're allowed to transfer to a carrier boat; which kind of caught me by surprise, because there was none of that mentioned in Draft Addendum I that was commented on publicly this past winter. Thank you very much for your time.

#### **SET 2018 SPECIFICATIONS FOR AREA 1A**

CHAIRMAN WHITE: Thank you for your comments. Okay, next on the agenda, 2018 Specifications for Area 1A, Toni.

MS. TONI KERNS: Each year the Section has the ability to set specifications for the Area 1A fishery. At the 2015 annual meeting, the Section approved the Area 1A Sub ACL as a part of a multiyear specification. This specification went through 2018. The Sub ACL is 30,000 metric

tons, which represents a 28.9 percent of the total stock wide ACL of 104,800 metric tons.

Since 2009, the Section has split the Area 1A Sub ACL into trimesters, where 0 percent is allocated from January 1, through May 31, and then 72.8 percent of the Area 1A Sub ACL is allocated from June 1, through September 30, and then 27.2 percent is allocated from October 1, through December 31. Today the Section has the ability to set specifications for the area, using any of the provisions that are outlined in Amendment 3.

CHAIRMAN WHITE: Are there any questions for Toni? Seeing none; is there a motion? Doug.

**MR. DOUGLAS E. GROUT: I move to allocate the 2018 Area 1A TAC seasonally with 72.8 percent available from June through September, and 27.2 percent allocated from October through December. The fishery will close when 92 percent of the seasonal period's quota has been harvested and underages from June through September may be rolled over into October through December period.**

CHAIRMAN WHITE: Is there a second to the motion, Pat Keliher, thank you. **Is there any discussion on the motion? Seeing none; is there any objection to the motion? Seeing none; it passes by unanimous consent.**

#### **DISCUSS ROLE OF SECTION IN RESEARCH SET ASIDE PROCESS**

CHAIRMAN WHITE: The next item on the agenda is an issue that I asked to be discussed; and Toni has a couple of slides, and then I'll talk to it.

MS. KERNS: Ritchie asked me to pull together a couple of slides on the RSA process. I did ask Mike Pentony from the GARFO Office to be here to help me answer any questions that the Section may have about the RSA process, and to make sure that I am staying on the straight and narrow on how the process actually works.

I used a very wonderful resource that is on the GARFO webpage, which there was a link provided in the meeting overview; as well as I'll have one in the presentation on RSA, and it has a lot of questions and answers in there if anybody can't remember what we go through. All right, so research set aside programs are unique federal grant programs.

They are established through GARFOs fishery management plans that promote collaboration between researchers and industry on high priority issues. The RSA programs support applied research projects that are intended to support management decisions, and to refine and improve stock assessments.

Through each of the respective programs, either pounds or days at sea are awarded through a competitive grant process to fund the research. The Science and Research Director at the Northeast Fisheries Science Center make the RSA selections based on technical review scores and management panelist's recommendations. For NOAAs participation in the RSA, NOAA Fisheries implements the RSA program itself. It does a proposal review and selection process. They ensure that the research is technically sound.

They ensure alignment with council research priorities, as well as oversee the regulatory and vessel permitting needs and monitor RSA harvest activities. This is a joint effort between the GARFO Northeast Fisheries Science Center, as well as the Council process. For the Council's participation in the RSA, the Council members as well as staff provide the following support for the programs.

They set the RSA quota and the number of days at sea associated with the RSA. They develop research priorities and forward those recommendations to NOAA Fisheries, and they provide management expertise in reviewing proposals themselves, and they consider the research results to support the Council's fishery decisions. This is the link to the website for

questions that you may have later on down the road. It is quite helpful.

(<https://www.nefsc.noaa.gov/coopresearch/rsafaq.html>)

CHAIRMAN WHITE: Thank you, Toni. The concern why I put this on the agenda, I've had a number of New Hampshire fishermen express concern to me, and these would be lobster fishermen about gear conflict. Because the lobster fishery has continued to move offshore, and in the areas where midwater trawl boats would be fishing for herring, the lobstermen want to be prepared and know when those boats might be in that area fishing.

They might move gear, change their buoys, do whatever is necessary to have less damage to their gear. So New Hampshire gets contacted, when will the midwater boats for the herring fishery at the end of the season, when is it done; and with the RSA, the unknown aspects of the RSA, we can't give them a definitive answer, because we don't have any ability.

The Commission has no ability to determine or know exactly when the RSA will be prosecuted or where. That is of concern to me, and I think it's something that we should look into further to see whether we can have some say in it; whether the Commission should have a role in this process.

Since putting this on the agenda, I've heard from some other Commissioners that there is also some concern about how the research is picked; and whether we should have some say in that as well, and also what types of vessels participate. Because it seems to this point it has only been midwater trawl vessels, and should there be some opportunities for purse seine and small mesh bottom trawl.

I think with all those concerns, my suggestion is that we have this on the agenda at a future meeting to try to flesh all these issues out, and see what our next step might be to work with the Council to get us to be part of that process. I

guess I would ask if any other Commissioners would like to express concern, and whether they think it is advisable to have this on a future agenda. Doug.

MR. GROUT: If I might, Mr. Chair, I would like to ask Mike Pentony if he might be able to provide us any feedback as to what would be the appropriate course of action that we could take, or the Council could take, or that GARFO could take. That if this Section decides that they want to have input into it, is there a mechanism? Is there any idea of what kind of mechanism that would involve? Is it something GARFO would have to determine? Would it have to be a council action? Could we do an addendum to include it? If Mike might be able to provide any input he might be able to provide, I would appreciate it.

CHAIRMAN WHITE: First, thank you, Mike. I planned to call on you. First I would like to see if there any other Commission members that have this concern. I mean if it's just myself than this doesn't need to go forward. But if there are others, okay I saw David first.

DR. DAVID PIERCE: I can appreciate the concern that's been expressed by those fishermen in New Hampshire and in Massachusetts some concern has been expressed in recent past about the RSA fishing by vessels; by midwater trawlers, possible conflicts with lobster gear. As you indicated, the lobster gear is expanding so they're getting into areas where the midwater trawlers fish for sea herring.

Because of that in recent years again, my agency has worked with the midwater trawlers out of Gloucester, notably to make them more aware of the concerns expressed by lobstermen about real or imagined gear conflicts. That led to some greatly increased communication between the captains of the vessels and the lobstermen themselves.

That is one way in which we can better address the gear conflict issue with lobstermen; maybe



by including more New Hampshire fishermen in the discussion, so they're able to pass on this information to the midwater trawlers. That is why I certainly don't mind it being addressed. We can bring it forward again for further discussion at another meeting.

But at the same time, we've been dealing with it in that way; and it may simply be a matter of just improving communication, because midwater trawlers don't want to get into gear for a number of reasons. Regarding the difficulty of predicting when the catches are going to occur. That is when the RSA will be used up.

I share that concern. I would love to know when it's used up. I mean my agency is doing a lot of the administration of the RSA. I have staff working very closely with RSA fishermen to accomplish the objectives that we have set for ourselves; such as increased sampling of the landings, spawning condition of the fish, move-along strategies to deal with possible bycatch issues.

I would love to know when the RSA is over too; but from talking to my staff, it all depends upon where the herring are and when the herring are. Also, the boats tend to hold some of that RSA allocation for later on when they go fishing for mackerel; because they're going to catch herring, and they need to have that as part of that catch.

It's unpredictable. We just need more communication with those individuals involved in RSA fishing. Those are some of the points I wanted to make. If indeed we as a Section decide to have more discussion about this at our next meeting, then I'm more than willing to have staff come and give a presentation regarding the RSA fishing that we do; and provide again more insight as to what can be done and what has been done.

CHAIRMAN WHITE: Pat.

MR. PATRICK C. KELIHER: I think David had a lot of very good comments. In the state of Maine, we are allowing landings to come into Maine outside of different trimesters and different quotas. We're managing the landing of RSA product through our special licenses. By doing so, we have the ability to put additional restrictions on.

If we're going to have additional conversations at a later meeting, I would be happy to bring information related to how we're handling it in the state of Maine. It may be something that would be transferable. Your points on gear conflict are certainly accurate with what we're seeing in Maine; whether it's in southern Maine, New Hampshire lobstermen or farther down east, in and around the Schoodic area.

Gear conflict is an issue. We're getting a fair amount of calls starting right now actually, because of gear conflict with some midwater boats fishing in 1A in this next trimester. I think anything we can do to improve communication is a good thing. I'm not sure we need to have more say in how it's done through the Council process. I think we're just all wearing two hats here. I think if we're just a little bit more open on this end maybe that will help with our discussions through that venue.

CHAIRMAN WHITE: Ray.

MR. RAYMOND W. KANE: I have a question on this RSA. Not only do they, I think they're allocated roughly 990 tons. But there is a lot of mackerel caught. I'm wondering how these vessels are charged for the mackerel that are caught. Last year, if I'm not mistaken, I read that it was 976 or 87 tons of herring landed and 3,000 metric ton of mackerel. Maybe that would be a question for Mike Pentony. How is that addressed? Are they charged on the mackerel that they land?

CHAIRMAN WHITE: Any other Commissioners before I go to Mike? Seeing none; Mike, you've

heard the discussion and the questions. If you could help us out that would be appreciated.

MR. MIKE PENTONY: As you've heard, and Toni did a good job of presenting the overview of the RSA program. There are effectively three or four phases I guess to the operation of the program. The first is where the Council sets the research priorities for the program; on a year or every-other-year basis.

I think working with the Council members that are also here at the table, there may be a mechanism or an opportunity for the Section to weigh in at that point in time; in terms of what are the highest priorities of the Herring Section and the Council together that should be considered in establishing the program on a year-by-year basis.

That is one opportunity, and I encourage you to work with your Council partners on that. The second phase or second aspect of the program is the project selection. The Agency, as we do with all federal grand programs, publishes a federal funding opportunity notice; and solicits proposals. Then we put together a Technical Review Board to review the proposals for technical merit, scientific merit, and financial stability. Making sure that the project that they propose can be done with the available grant. Then also how well does the project or do the projects support the priorities that we established and noted in the FFL. We solicit independent reviewers for the technical review; and if the Section is interested in providing members or technical staff as a resource to participate in that process, we would be happy to entertain that.

It is always good to have a wider pool of potential technical reviewers; so we're not asking the same people over and over again to review a lot of proposals. We do have to be a little bit concerned about conflict of interest; but that's why having a wider pool of potential technical reviewers is a good thing, so I encourage you to consider that as well.

The next phase is selecting the projects. I just wanted to point out that we select the projects based on the proposer. At that point we don't necessarily know what vessels are going to be involved; because the research institution or state agency or whoever is putting forth a proposal. We're looking at the merits of that proposal.

The aspect that generally causes concern or where the issues arise is from the compensation fishing. That is the way that the projects are effectively funded. When we approve projects, we don't necessarily know what vessels are going to be engaged in the compensation fishing. As I said, we're focusing on the merits of the proposal itself.

We also get directly involved in telling investigators, researchers, what vessels they can or can't use. We allow them to establish private agreements and arrangements with the vessels that they feel are best suited to either help them conduct the research; or best suited to do the compensation fishing to help fund the work.

But all of those vessels are eventually sent to us when the applicant then applies for the exempted fishing permit; which is what allows the compensation fishing to operate when the fishery would otherwise be closed. At that point we do a sanction check on the vessels that are proposed; and assuming that the sanction checks are clean then we issue the EFPs.

I'll note that that EFP review process is one where when we receive an application for an exempted fishing permit we notify the Council. We notify the states for where the activity is taking place. I believe we notify the Commission as well that we've received an EFP application. We solicit comments on the EFP. When we decide to issue the EFP, we also notify the states that we're issuing the EFPs.

That will give you a sense of when the EFPs are being authorized, and when the fishing activity may take place. We will be happy to work with

you on improving communication; as Dr. Pierce suggested. If there are ways that we can do that better, do a better job of that, provide more information. I think it's important to understand that the EFPs that we issue explicitly state that these EFPs are exempting vessels from federal regulations; and do not waive or exempt the vessels from any state regulations that may apply.

If there are things the states are concerned about that would help from a state perspective address the concerns, there is an opportunity there; because our EFPs do not override any state regulations. With that I'm going to stop there for a second and see if there are any follow up questions or if I missed anything that someone would like me to touch on.

CHAIRMAN WHITE: Thank you, Mike, that was very helpful and we have gotten copies of the e-mail and text alerts that are going to be going out that you will begin fishing. That clearly is helpful. If that can be expanded, if there is some way of expanding that as to where they're going to fish when those go out that would go a long ways to solve the conflict problem. Are there any questions from the Commission for Mike? Seeing none; thank you, Mike.

What is the pleasure of the Commission? Would you like to see this as an agenda item in the future; or do you think that we've received enough information at this point? Is anyone in favor of having an agenda item? Seeing none; we'll close this agenda item.

**DISCUSSION OF NEW ENGLAND FISHERY  
MANAGEMENT COUNCIL PARTICIPATION IN  
ATLANTIC HERRING MANAGEMENT**

CHAIRMAN WHITE: Next is the discussion of New England Fishery Management Council's participation on the Herring Section. We welcome Terry to the table for this discussion. Toni has a presentation.

MS. KERNS: Currently the Section can invite the Council, any council to participate on specific issues as nonvoting members on an issue-by-issue basis. The Section has done this. For example under Amendment 3, the Section invited the Council to sit and participate in the discussions as we went through the process of developing and approving Amendment 3.

This summer at the NRCC meeting, the Northeast Regional Coordinating Council requested that the Commission consider having the New England Fishery Management Council as a voting member of the Atlantic Herring Section. Provisions within the ISFMP Charter only allow for Council participation on management boards. Amendment 1 in the compact specifies that states can come together to form sections; but that does not include any federal management agency or body.

In order for the Council to have a voting seat on the Atlantic Herring Section, the Section would then need to become a management board. The Policy Board discussed this a little bit at our meeting in August. They tasked the Herring Section to have a discussion on this issue; and make a recommendation back to the Policy Board on what the Section is interested in seeing us move forward with.

CHAIRMAN WHITE: Toni, could you go over any other changes to the Section in becoming a Board. Would the Services have a seat at the table at that point?

MS. KERNS: Any management board could have both NOAA Fisheries and U.S. Fish and Wildlife on the management board. They can participate in any management board they would like to participate in. It's not an invitation; it is automatic if they would like to be a part of that.

The management board would then need to invite the Council to participate. What happens in the charter is that you can invite the councils and then the councils can decide who they want to represent them, if they want more than one

council to be participating. But it's just one seat for a council.

CHAIRMAN WHITE: Any questions or comments? Tom.

MR. THOMAS P. FOTE: I remember going to my first Atlantic Herring Section many years ago. It was actually the only place where a Governor's Appointee and a Legislative Appointee had a vote; because the sections were set up different than the boards. It's a long history here. I like the way it runs now. I have no problem if you want to put an officio member on. But I don't think I want to change it to a board. It seems to work well. We have all the states represented, they talk about it, work out things for themselves. If we need information like we did inviting the Council to come as an officio member to sit at the table, I have no problem with that. But I don't think that we need to change this to a management board; and all the other things that entails.

CHAIRMAN WHITE: David.

DR. PIERCE: Yes, I guess my first question would be if we were to become a board, expanding membership. Does that then preclude three states, Maine, Massachusetts and New Hampshire from getting together as we do now, and as we have done for many years to talk about fishing day's restrictions, you know days out to very quickly make changes in how we deal with the quota in the Gulf of Maine, Area 1A quota? I would not want to make any changes in how we do our business if it's going to slow us down; and stop us from doing that, because it's been very effective. That would be my first question.

CHAIRMAN WHITE: To answer that Doug, do you want to answer that?

MR. GROUT: Well, I'll let the staff back me up on this. But that three state Area 1A group is specifically outlined in the plan. It has nothing to do with whether we're a board or a section. It

says the Commissioners from New Hampshire, Massachusetts and Maine will get together to do A, B, C, D, E in this.

The Board has given us the authority to do that or the Section has. It wouldn't change anything from my standpoint. Toni or Bob can correct me. I don't think that changes. I don't think there would be federal representation or council representation on that without a change to the management plan.

CHAIRMAN WHITE: David, did you have additional?

DR. PIERCE: I guess another point. My preference is to leave it as is, and to have a Council member be a nonvoting member. If indeed the Council wants to be involved in those sorts of discussions fine enough; but then again I'll mention again, I'm a Council member, Doug is a Council member.

We have Council members already making decisions relative to how we deal with that very important Area 1A quota. Then as a complication if suddenly we have a council member, another council member who is non state let's say, become a voting member of the Section, and that is we have now likely state imbalance.

Right now it is the states as individuals with our counterparts voting as one. But now if another individual is put onboard, let's say somebody from Massachusetts; well Massachusetts has two votes now, in contrast to the state of Maine having one vote and New Hampshire having one vote, or the Council puts Terry Stockwell on, because of the wealth of knowledge that Terry Stockwell has.

There are two Maine votes, one New Hampshire and one Massachusetts. The fishing industry will see this and they will understand what's happening. They might think it's a way to stack the deck in a way that might favor one state over the other. Right now we all work together very

well. I frankly don't see the need for another Council member to be put onboard. We don't do anything that's not above board, it always is. We brief the Council; if the Council, apart from having a state representative, state director on the Section, if the Council wants somebody else to be onboard to provide information, to assist the discussion. That is fine, but a nonvoting member would be my preference.

CHAIRMAN WHITE: Dennis, I have you next.

MR. DENNIS ABBOTT: I'm not in favor of this. I'll say that right from the outset. David mentioned a few of the things that I was concerned about; whether they would participate in the Maine, New Hampshire, Massachusetts when we do the season setting, et cetera, and et cetera. Whether they sit there or not, but once they become a voting member then they have an influence on our future decisions.

That could change things down the line. The first thing that I asked myself was what advantage does that offer to the Section, their participation, and I couldn't see any being that they could be invited, they can offer their positions, they can be an ad hoc type member and provide us whatever information they would like.

But what we're really doing here if we invite them is we're now giving them a vote that we have; and I don't think that they should have. Again, I support them participating, but I do not at all support them voting. Again, down the line they could affect our decision making. Sometimes we have meetings, full meetings, and we barely have a quorum, and if they're there it just upsets the balance that we have. I think we're trying to cure a problem that doesn't exist by inviting them to be a voting member.

CHAIRMAN WHITE: Doug.

MR. GROUT: I think most of you have heard me speak in favor of us switching to a board in the past. I believe in any management plan that we go down with, I think there are benefits to having

both the Service, because we are co-managing this species with federal agencies and the Council, and if the Council would like to be a member of it and a voting member of it.

I think that would end up making our decisions stronger and better on this. I don't think we should try and manage this in a vacuum; when clearly some of the decisions we have, have impacts on federal permit holders and the actual fishing that goes on out in the EEZ.

I would strongly support, even though I can count the votes right now that the Section at some point start to think about making a recommendation to switch to a board. I don't think we should be afraid of having both National Marine Fisheries Service and a member of the Council on here as a voting member. I think it will make our management action stronger and better.

CHAIRMAN WHITE: Pat.

MR. KELIHER: I actually have been opposed to this, but I've been leaning a little bit more in the direction of allowing it; although David has brought up a lot of good points, as did Dennis. I would like to hear directly from Mr. Stockwell on really the why. What are the specific areas that they're looking at engaging in when it comes to herring from a Commission perspective? Maybe that would help better give us guidance on maybe potentially narrowing their participation into areas to help offset some of the concerns that we've heard here this afternoon.

CHAIRMAN WHITE: Terry.

MR. TERRY STOCKWELL: Thank you members of the Herring Section for indulging in my participation today. I'm sitting at this table with a very different hat on than a year ago, when I made the motion to initiate Addendum I, which was populated with a number of management measures that the state of Maine wished to have in place; to more effectively manage the herring fishery effort in Area 1 during Trimester 2.

This year I'm solely wearing my Council hat, and while there have been a lot of comments about the ability of state directors to advocate for both processes at the same time. I really want to underscore that prior to today my sole responsibility was the state of Maine, when I was sitting at this table, not the Council's FMP and vice versa.

I disagree that adding another member from the Council will stack the deck. I think that a Council member will, whether or not it was a state representative or another member, will help more fully advocate for the federal FMP. I do want to mention that the Council has added a voting member from the Lobster Board to the Habitat Committee.

The primary purpose of the Council requesting representation is to improve the coordination of the management efforts. The Council doesn't want to get involved in the three states spawning process. The Council's concern that the Commission is taking actions that are inconsistent with the federal management plan is usurping the Council's authority in this resource.

I want to highlight the comments that were made from the public about Addendum I. The actions of the Section avoid the need to pursue management changes for the Council, which while it takes longer; they are made with full analyses and opportunity for formal public comment. The two big issues that are before the Council right now are one, still a little bit of blowback from Addendum I to Amendment 3, and the issues that were forwarded to the Council through a nonvoting member this past spring.

The letter received by the Council from the Commission to participate in the RSA project. The Council has not answered that letter yet, and it probably will not until after the winter meeting, when it's a little bit clearer to the Council what direction the Section is going to go. I can read the tea leaves too. I would like to

pursue a more collaborative way to move forward.

I mean I do agree, Tom, I was sitting on the Herring Section and the Council way back when, when we did both processes. It was pretty painful. I don't want to do that again either. But I think there needs to be a way to better merge the two processes together; as we go through some very difficult challenges dealing with forage fish.

CHAIRMAN WHITE: Terry, do you think the Council would be interested in having a Section member as a voting member on the Herring Committee?

MR. STOCKWELL: I do, but I can't speak for the Full Council input. We have an Executive Committee meeting coming up this next month, and that is on the Executive Committee's agenda.

CHAIRMAN WHITE: Tom.

MR. FOTE: We're not just adding one council member; we're adding the two services. Over the years this has been functioning really well. I know that the two services try to be objective; but sometimes over the years they have been the swing vote in allocation battles. Sitting around the table with the states involved there is a lot more effort to make it fair to everybody sometimes.

We don't have those two votes that counteract it. I'll be honest; I think we should stay the same. I have no problem with an officio member sitting from the Council. They didn't invite us when they basically opened up the winter flounder to 5,000 pound trip limits, and done in a vacuum as far as the Mid-Atlantic, as far as the Commission was done and everything else; and there is no voting member there. I can't support this.

CHAIRMAN WHITE: It looks like we're going to need a motion, because it looks like we're not

unanimous. Are there any other comments first, before I ask for a motion? Pat.

MR. KELIHER: I think the key word here that Terry used is collaboration. I'm not sure we need voting members from ASMFC on the Commission or on the Council and vice versa. I think we need to find a better way to ensure that we're collaborating on this. It would seem to me that that is the most important component.

Last year we had some objections by Council members, Council staff, including suggestions by the Council Executive Director that we were overstepping our bounds by putting control rules in place on federal permit holders. The state of Maine puts those types of controls on federal permit holders all the time with our state landing laws.

They've been upheld all the way to the Maine Supreme Court. I'm comfortable from a state perspective, and that gives me comfort from a Commission perspective that we had the rights and the abilities to do what we did. Whether it was right or wrong that is for a different day and a different discussion.

But it would seem to me a better way forward is to maybe get Council and Commission staff, along with some members from both bodies together to talk about how we could do a better job collaborating on this species; instead of talking about changing the Section to a Board at this time.

CHAIRMAN WHITE: Eric.

MR. ERIC REID: I'm a relatively new kid on the Commission, and I'm also a relatively new kid on the Council. I haven't been in the herring management business since well, since whenever. But I agree with what Terry said, a lot of things. When you sit at this table, I'm from Rhode Island, and I represent the interest of the state of Rhode Island. When I'm on the Council, you know I'm bound by my oath to take care of the interest of the nation as a whole; which New

England apparently is the nation as a whole, but that's a whole other thing. Herring is a very complicated thing. Anybody that knows anything about herring, the management of herring is an extremely complex thing. I mean my God, I've been working on herring for 12 years, and then really still not gotten anywhere.

To avoid having the best minds at the table means avoiding having someone from the New England Council here; and I don't think that's smart. It's not the more the merrier, but the more informed people that you have in a discussion, that is very important to that fishery; and a lot of other fisheries.

Whether or not we go from a Section to a Board, I mean that's a pretty complicated decision. I'm not really ready to make that decision today; but I would easily support having the New England Council participate in the Section as a nonvoting member. Mr. Chairman, to your point, it's very logical that we would request a seat on the Herring Committee. I don't know whether or not that would be a voting seat or not.

Maybe some of my fellow Council members could tell me. I mean everybody that sits on the Committee votes. What is the balance there? I mean you've got to look at how is that going to work? I think the decision today should be whether or not we should let New England help us inform our decisions. I think the answer to that is yes, and then we would have to go from there. But I really think that we would be remiss not to bring as much advice to the table as we could.

CHAIRMAN WHITE: David.

DR. PIERCE: Well it's been mentioned, you know one of the key steps that already have been taken, and I suspect will continue to be taken is just including the New England Council staff that deals with sea herring in our discussions. I think our ASMFC staff does a wonderful job working with the counterpart on the New England Council.

That's the way it always has been. We've had at past meetings New England Council staff come here to brief us and vice versa. That has worked rather well. One issue that continues to haunt me that I take issue with is the fact that there has been in the past, and still said that states are usurping federal authority; and therefore the Council should be more involved, let's say as a voting member.

Well, I don't agree with that. Pat has already addressed it. We're not usurping federal authority. Frankly, we're making federal rules work. We do more than what the federal government, the New England Council specifically has done or what NOAA Fisheries can do; specifically the spawning closure.

But if it hasn't been for the states and our controlling the catches of federally permitted fishermen in federal waters; there would be unbridled fishing on spawning fish. We lay claim to fame that we've done quite a lot to protect spawning fish. That is one of the hallmarks of what we have done for effective sea herring management.

Years gone by the Council tried it but couldn't do it, couldn't implement federal rules that would control the catch of spawning fish; so we did it. We did it then in a cooperative and collaborative way; and we continue to be that way. Again, having a council member a part of the Section as a nonvoting member, and I'm fine with that. But as a voting member, I just don't see the need for it.

CHAIRMAN WHITE: Dennis.

MR. ABBOTT: I just listened to Eric talk about what he's required to do essentially as a member of the Commission, and also when he's sitting as a member of the New England Council; which made me think of the fact that we have before us something that the New England Council brought before us now, in the person of Terry being their representative.

We're preparing to vote while we sit here at the table, with a goodly number of Council members. To me this raises an issue of a conflict of interest; in whether they should even be voting on this, because they're bringing it forward so we're going to have a possible biased vote. Should they not exclude themselves from the vote, or should we put this whole thing aside and leave things as they are, as David Pierce, Dr. David suggests; and I'm serious when I say that.

CHAIRMAN WHITE: Doug.

MR. GROUT: One of the things I was thinking about. You know clearly I don't even think I would get a second to turn this into a board right now. I certainly would support the Section continuing to allow a Council member to sit as a nonvoting member; to increase the communication between the Council's management plans and the Section's management plans, so they can bring that kind of information back and forth and provide input, as I provide input to the Council on what we're doing.

But one thing that we do every three years that is similar in management is set specifications. One of the things that I've always been a little frustrated, it seems like this Section has been in the position of essentially rubber stamping what the Council has already approved for specifications.

One thing that we might do to help do more collaboration with the Councils is when it comes time to setting specifications, maybe the Herring Committee and the Herring Section could have a joint meeting. Instead of the Section just being a rubber stamp that we talk about some of the issues; such as the RSA, at the same time.

I would just throw that out there for consideration. Coming up this year we'll be developing specifications again; and does the Section want to try and reach out to the Council, along with maybe an offer to have a nonvoting



member on our Section, to see if we could set the specifications at a joint meeting.

CHAIRMAN WHITE: Ray.

MR. KANE: Yes, you would have to explain that to me, Doug. If I'm not mistaken, you sit on the Herring Committee. I believe Pat Keliher sits on the Herring Committee, and David Pierce has a representative Cate O'Keefe sitting on the Herring Committee, so how could you bring in the Herring Section to meet with the Herring Committee? I'm more in favor of Dennis Abbot's, he didn't put it up as a motion; but I would rather not see Council members vote on this. I would rather let the other state delegate Commissioner's vote on this here today. But I don't understand where you're going with that. Because once again you've got people sitting here who sit on the Council. As a matter of fact, all three members, Pat Keliher, yourself and Dr. Pierce, and you three men should be able to inform the Council on what the Commission's thinking is, I would think.

CHAIRMAN WHITE: Let me summarize where I think we are. I get the sense that the Section is not ready to vote to become a board today. But I also hear that we need increased communication with the Council. We can take a vote, either today or in the future, to extend the seat that Terry now sits in as a nonvoting member after Amendment 3 is passed; so he's here until Amendment 3 is completed.

We could extend that at that time, just by a vote of this Section to continue that seat as a nonvoting member. Would it make sense that the Chair and possibly a couple other Commissioners meet with the Chair of the Council, and talk about how we might increase communications. Do you think that makes any sense? Then we can in the future extend the seat as a nonvoting member; if we decide to. Terry.

MR. STOCKWELL: We did have a discussion about this at the NRCC meeting in the spring. I'm

sure it will come up again between the two councils and the Commission and GARFO at the November meeting. But, it's, I mean I won't say quid pro quo, but you're asking for participation on the RSA program and slam the door in the Council's ability to participate in the Section. That might be a tall order to bring people together to come up with a reasonable resolution.

MR. FOTE: I find this an interesting conversation. First of all, New York and New Jersey sit on this, yet it will be the New England Council will send a representative, wasn't asked for the Mid-Atlantic Council. The same thing with the winter flounder situation, I just found that a little strange. Again, I have no problem with inviting a person from the New England Council to sit on here. I wish it would be a different participation than it normally is, and how do you stop it from being from the same state?

You can't do that. But when you're going to look for things, and want to start working together with councils, when do we choose the Mid-Atlantic to sit on, like the Winter Flounder Board, or one of the members from the southern states to sit on the Winter Flounder Board, and make sure of our concerns on a stock that is not being rebuilt. If we're going to start this negotiation and talk, we should talk about all the boards, not just herring.

CHAIRMAN WHITE: Sara.

REPRESENTATIVE SARAH PEAKE: As I'm sitting here listening to the conversation, and thinking about your last comments that maybe there could be a working group that comes together to look at ways to enhance communication. I think that's really what the nub of the matter is that we're talking about. Because as somebody who doesn't participate in the New England Council, I guess I'm curious how adding them as a nonvoting member to this Section, or making it a board and having them be a voting member.

How that is going to increase communication? When we've already identified there are four members of this Section that already wear two hats, a New England Council hat and an ASMFC hat. If those four people can't find a way to communicate what each board is thinking, or the Section to the Board or the Board to the Section, how adding an additional person to advise us or be a nonvoting participant, how five is going to be the magic number, when we have a communication problem now and there is an overlap of four members. I think that we're kind of going down a rabbit hole here, and maybe we all need to take a step back and look at ways to enhance communication; as opposed to thinking about adding people to a Section or not.

CHAIRMAN WHITE: Pat.

MR. KELIHER: I would like to make a motion, Mr. Chairman. I would move – I'll try to talk slow – no, something brand new, you'll have to type as I talk. **I would move that the Section recommend to the Business Committee that we send a letter to the New England Council, suggesting the establishment of a working group; with the goal of improving communications between the bodies.**

CHAIRMAN WHITE: Is there a second? Tom Fote. Does anybody want to speak to the motion? Doug.

MR. GROUT: I would support this. I think there are a lot of ways that we can get at improving communication and coordination on herring management between the Commission and Council. I also wanted to sort of address the concerns by some Commissioners that the State Directors that are on both the ASMFC Section and the Council might have some kind of conflict of interest.

We at both entities, the Council and Commission, we represent the state, our state in this case. It's not any kind of conflict for us to be representing our state in both types of management. It's not like we're doing this in

conflict with the federal agencies. We're cooperatively managing this species together for the betterment of the resource, and the betterment of the industry. That is what our goal is here, so I thank you very much.

CHAIRMAN WHITE: Any other comments? Go ahead, Adam.

MR. ADAM NOWALSKY: Is the intent of this to be herring specific? Because as this is laid out right here going to the Policy Board, it suggests communication on all species. I mean is that an issue? Do we want the Policy Board to take that up? Because I would presume if there is a communication problem in one species, there are probably communication problems in other species. Where do we want to go with this, make this herring specific or are there other issues that this could accommodate?

CHAIRMAN WHITE: Pat.

MR. KELIHER: Thanks, Adam. This is meant to be herring specific. While I don't disagree there may be some other communication issues related to other species, herring is one of the most complicated species we have that we manage. My staff says it's not complicated, it's just complex. Well whatever, it's complex or complicated, there is a lot of moving parts here, and I would like to keep this very specific to herring.

CHAIRMAN WHITE: Tom.

MR. FOTE: As seconder to the motion, I did it because I wanted to start opening up the communication on more things than herring, like winter flounder and a couple others.

CHAIRMAN WHITE: I don't think, Tom that that would be an issue for this Section, so I think that's something that should be brought up to the Policy Board in a separate matter; because we're not involved in other species. I think this motion, as Pat said, is appropriate to herring. If

you want to expand that then that would be done at the Policy Board.

MR. FOTE: Ritch, that's not what I said. I said I understand this one is to herring. I'm saying I hope that is a start that in the future we go some other direction, and we work on other boards. I was strictly doing this for herring.

CHAIRMAN WHITE: I apologize. I didn't hear you correctly, Tom, thanks; anybody else before we vote? **Seeing none; is there any objection to this motion? Seeing none; it passes unanimously by consent.**

#### OTHER BUSINESS

CHAIRMAN WHITE: Okay, we're into other business. Pat.

MR. KELIHER: I know we're running up against the clock here, and I certainly don't want to stand in the way of food. But the second trimester Area 1A fishery this year, as was pointed out by Mr. Axelrod, I always butcher your last name, Paul Axelson, my apologies. We did have different goals this year to extend the harvest of that quota out into the middle of September.

In doing so that is pushing more of the harvest in the time when we're going to see spawning fish. Throughout the end of that trimester into this next trimester, I've been getting complaints of a lot of spawned fish being caught, people wanting to go back to the way we were doing it in the past. I've heard the gamut.

We had the Technical Committee make changes to the way we were feeding data into the model. I'm not suggesting it was making the model biased; but potentially that model could be made biased by the inclusion of data and expansion of data points into it. I would like to make a motion, and Kirby has that; and if I get a second we can discuss this further. But it's fairly, well it's long, but it's fairly simple.

**It's just a move to task the Technical Committee to revisit the 2017 fishing season relative to the goals and objectives of Amendment 3, and comment on the effectiveness of the current spawning management measures. Make suggestions on technical or management changes to better meet those goals and objectives, and if time allows make research recommendations to maximize effectiveness and better inform management. Then the TC would report back to the Board at the winter meeting.**

CHAIRMAN WHITE: Is there a second, Dennis Abbott. I guess I would have a question for Toni. Is this something you think the Technical Committee has the time to do for the winter meeting?

MS. KERNS: Sure. The Technical Committee doesn't have any large agenda items on their task list; which you have a task list in front of you in the supplemental materials. There are individuals on that Technical Committee that do have other things going on; such as Matt. But Matt did let me know that this might be coming up. My bigger concern here is the implications of what the recommendations may be, and the decisions that would come after that; because if we're looking to make changes to how we deal with the spawning closure system. That likely would need to be revisited through an addendum; which if that is going to happen, we would want to consider that for the action plan and the budget for next year. I didn't budget to have a meeting of this group. But it is also just three states that are quite close together, so I don't think it would be a very costly meeting to have. Bob did raise his hand though, so I want to go to him to address.

CHAIRMAN WHITE: Bob, do you want to comment?

EXECUTIVE DIRECTOR ROBERT E. BEAL: I was going to say some of the things that Toni said, but you know I think in general this tasking looks to me like one conference call, just to have a

discussion on sort of how things went this year; and doesn't seem like a whole lot of complex analysis. Unless I'm missing something, Pat?

Then you know a report back to the Board. You know I think we can do it by the winter meeting; but I reserve the right to go back and spend some time with the Technical folks, and make sure I'm not over burdening those folks with the task. Once we talk, if there is something that seems like it's going to take longer. Then between now and the winter meeting we'll let the Section know real quickly.

CHAIRMAN WHITE: David.

DR. PIERCE: I think this is the first year in which we've operated under new rules for the spawning closure. Time flies. We made some very important changes in how we monitor and implement the spawning closure. It would seem that now would be a fine time to take a look at how it worked, get some reaction from the fishing industry, again more communication between the Technical Committee and the industry itself through us or independent of us. These tasks seem very reasonable. I agree, I don't think it would take that long.

CHAIRMAN WHITE: Are there any other questions or comments; ready for the motion? Ray.

MR. KANE: I'll say it again. I've heard it for years. Are we ever going to address spawning closures on Georges Bank and Nantucket Shoals?

**CHAIRMAN WHITE: That would be another discussion. Is there any objection to this motion? Seeing none; the motion passes by consent.**

#### ADJOURNMENT

CHAIRMAN WHITE: Is there any other business? Seeing none; I just want to make a couple of comments. This is my last meeting as Chair. I want to thank staff, Ashton and the Toni filling in after Ashton left.

I would really like to thank the three Administrative Commissioners from New Hampshire, Maine, and Massachusetts; because the days-out process happens very quickly, and communication is extremely important. These three Commissioners made it very easy to get a hold of them. I hope that continues for the next Chair, David. Thank you, and if there is nothing else then we are adjourned.

(Whereupon, the meeting was adjourned at 5:00 o'clock p.m., October 16, 2017.)

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# Atlantic States Marine Fisheries Commission

## Winter Flounder Management Board

*February 6, 2018  
2:15 – 4:15 p.m.  
Arlington, Virginia*

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

- |                                                                                                                                                              |           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1. Welcome/Call to Order ( <i>R. Beal</i> )                                                                                                                  | 2:15 p.m. |
| 2. Board Consent                                                                                                                                             | 2:15 p.m. |
| • Approval of Agenda                                                                                                                                         |           |
| • Approval of Proceedings from January 2017                                                                                                                  |           |
| 3. Public Comment                                                                                                                                            | 2:20 p.m. |
| 4. Elect Chair and Vice-Chair ( <i>R. Beal</i> ) <b>Action</b>                                                                                               | 2:30 p.m. |
| 5. Review 2017 Groundfish Operational Stock Assessment for Gulf of Maine and Southern New England/Mid-Atlantic Winter Flounder Stocks ( <i>P. Nitschke</i> ) | 2:35 p.m. |
| 6. Discuss Potential Management Response to Operational Assessment<br><b>Possible Action</b>                                                                 | 3:35 p.m. |
| 7. Consider Specifications for the 2018 Fishing Year ( <i>M. Ware</i> ) <b>Final Action</b>                                                                  | 3:50 p.m. |
| 8. Consider Approval of 2017 FMP Review and State Compliance Reports ( <i>M. Ware</i> ) <b>Action</b>                                                        | 4:05 p.m. |
| 9. Repopulate the Winter Flounder Advisory Panel ( <i>M. Ware</i> )                                                                                          | 4:10 p.m. |
| 10. Other Business/Adjourn                                                                                                                                   | 4:15 p.m. |

The meeting will be held at the Westin Crystal City, 1800 Jefferson Davis Highway Arlington, Virginia; 703.486.1111

# MEETING OVERVIEW

## Winter Flounder Management Board

February 6, 2018

2:15-4:15 p.m.

Arlington, Virginia

Chair: Vacant	Technical Committee Chair: Paul Nitschke (NEFSC)	LEC Representative: Kurt Blanchard
Vice Chair: Vacant	Advisory Panel Chair: Bud Brown	Previous Board Meeting: January 31, 2017
Voting Members: ME, NH, MA, RI, CT, NY, NJ, NMFS, USFWS (9 votes)		

### 2. Board Consent

- Approval of Agenda
- Approval of Proceedings from January 2017

**3. Public Comment** – At the beginning of the meeting public comment will be taken on items not on the Agenda. Individuals that wish to speak at this time must sign in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

### 4. Elect Chair and Vice-Chair (2:30-2:35 p.m.) Action

- Mark Gibson's chairmanship ended in May 2017
- Both the Chair and Vice-Chair seats are vacant

#### Board Actions for Consideration at this Meeting

- Elect Chair and Vice-Chair

### 5. Review the Groundfish Assessment for Gulf of Maine and Southern New England Stocks (2:35 – 3:35 p.m.)

- The Northeast Fisheries Science Center conducted an operational stock assessment through 2016. **(Briefing Materials)**
- Gulf of Maine: stock biomass unknown; overfishing is not occurring
- Southern New England; overfished; overfishing is not occurring

#### Presentation

- Winter Flounder Operational Assessment by P. Nitschke

**6. Discuss Potential Management Response to the Operational Assessment (3:35 – 3:50 p.m.) Potential Action**

- After reviewing the stock assessments, the Board may consider management responses

**Presentation**

- Discussion facilitated by Board Chair

**Board Actions for Consideration at this Meeting**

- Consider Board response to results of operational stock assessment

**7. Consider Specifications for the 2018 Fishing Year (3:50 – 4:05 p.m.) Final Action**

- The state waters sub-components (in metric tons) for the GOM and SNE/MA stocks have changed for the 2018 fishing year, with a significant reduction in the state sub-component for the GOM stock.
- For the 2018 fishing year, the Board can adjust the following management measures:
  - Recreational (size limit, bag limit, season)
  - Commercial (size limit, season, trip limit, trigger trip limit, and area closures)
- Briefing document on current specifications is in **Briefing Materials**

**Presentation**

- Winter Flounder specification overview by M. Ware

**Board Actions for Consideration at this Meeting**

- Consider specifications for 2018 fishing year

**8. Fishery Management Plan Review (4:05 – 4:10 p.m.) Action**

- State compliance reports were due on December 1, 2017
- The Plan Review Team compiled the annual FMP Review based on state compliance reports. (**Briefing Materials**)

**Presentation**

- Overview of the FMP Review by M. Ware

**Board Actions for Consideration at this Meeting**

- Accept 2018 FMP Review and State Compliance Reports

**9. AP Committee Membership (4:10 – 4:15 p.m.)**

- Winter flounder AP committee membership has not been updated recently and attendance on conference calls has been low
- States are asked to review their committee membership and nominate a new AP member if the position is vacant or the current member is not actively participating

**Presentation**

- Overview of the AP membership by M. Ware (**Briefing Materials**)

**10. Other Business/Adjourn**

## Winter Flounder Technical Committee Task List

Activity Level: Low

Committee Overlap Score: Low

### Committee Task List

- There are no on-going tasks for the Winter Flounder TC
- Annual state compliance reports are due December 1

### TC Members

Paul Nitschke (NEFSC – Chair), Tony Wood (NEFSC), Dr. Robert Pomeroy (UCONN), Sally Sherman (ME DMR), Greg Decelles (MA DMF), Rebecca Heuss (NHFG), Linda Barry (NJ DFW), Paul Nunnenkamp (NYS DEC), John Maniscalco (NYS DEC), John Lake (RI DFW)



**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
WINTER FLOUNDER MANAGEMENT BOARD**

The Westin Alexandria  
**Alexandria, Virginia**  
January 31, 2017

These minutes are draft and subject to approval by the Winter Flounder Management Board.  
The Board will review the minutes during its next meeting.

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**INDEX OF MOTIONS**

1. **Approval of agenda** by consent (Page 1).
2. **Motion to adjourn** by consent (Page 3).

**ATTENDANCE**

**Board Members**

Terry Stockwell, ME, proxy for P. Keliher (AA)	Mark Alexander, CT (AA)
Steve Train, ME (GA)	Lance Stewart, CT (GA)
Doug Grout, NH (AA)	Rep. Melissa Ziobron, CT proxy for Sen. Miner (LA)
G. Ritchie White, NH (GA)	Jim Gilmore, NY (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	John McMurray, NY, proxy for Sen. Boyle (LA)
Raymond Kane, MA (GA)	Emerson Hasbrouck, NY (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)	Tom Baum, NJ, proxy for D. Chanda (AA)
David Pierce, MA (AA)	Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
Mark Gibson, RI, proxy for J. Coit (AA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
David Borden, RI (GA)	Alison Murphy, NMFS
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Sherry White, USFWS

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

**Staff**

Robert Beal  
Toni Kerns

Ashton Harp

**Guests**

Mike Luisi, MD DNR  
Chip Lynch, NOAA  
Peter Burns, NMFS  
Aaron Kornbluth, Pew Trusts

Zack Greenberg, Pew Trusts  
Wilson Laney, USFWS  
Arnold Leo, E. Hampton, NY

The Winter Flounder Management Board of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of the Westin Hotel, Alexandria, Virginia, January 31, 2017, and was called to order at 12:34 o'clock p.m. by Chairman Mark Gibson.

**CALL TO ORDER**

CHAIRMAN MARK GIBSON: I am going to call the Winter Flounder Board into session. My name is Mark Gibson; from Rhode Island Division of Fish and Wildlife, and I am the current Board Chair. We have a relatively brief agenda today, so hopefully we can plow through that and carve out some extra time for lobster and Jonah crab.

**APPROVAL OF AGENDA**

CHAIRMAN GIBSON: The first item on the agenda is the agenda itself. I'll ask if there is anyone from the Board who wishes to make alterations or additions to the agenda. Seeing none; are there any objections to approving the agenda as presented? Seeing none; the agenda stands approved by consent.

**APPROVAL OF PROCEEDINGS**

CHAIRMAN GIBSON: The next item is the proceedings from the February, 2016 Board.

Is there any Board members wishing to offer edits or modifications to the proceedings? Is there any objection to accepting those proceedings as presented? Seeing none; those are accepted by consent.

CHAIRMAN GIBSON: The next item is public comment. No one has signed up for public comment. I'll offer the opportunity for anyone in the public to make comments to this Board to items not on the agenda.

**CONSIDER SPECIFICATIONS FOR THE 2017 FISHING YEAR**

CHAIRMAN GIBSON: Seeing none; we can move right into Item 4, which is the opportunity for

the Board to address Specifications for the 2017 Fishing Year, which begins May 1st.

The Board under the FMP's addendum can make changes to those specifications by Board action if they choose to do so. I'm not aware of anyone expressing an interest to do that. We'll have a presentation from Ashton on where things stand with the New England Council state waters sub-ACLs and so on.

MS. ASHTON HARP: This is a very quick presentation on the current winter flounder specifications and what the Board can change moving forward for the 2017 fishing year. Just as a review. The Board can adjust for recreational measures the size limit, bag limit and season. For commercial measures the Board can adjust the size limit, season, trip limit, trigger trip limit, and area closures.

The 2016 recreational measures for the Gulf of Maine were eight fish 12 inches, and there was not a specific season that was set; it was just year round. The Southern New England/Mid-Atlantic winter flounder recreational measures were two fish 12 inches and the season was March 1st through December 31st.

For the commercial measures the size limit remains 12 inches. There are some closures and then for the Gulf of Maine there is a maximum of 500 pounds per trip per day. For the Southern New England stock it is a maximum of 50 pounds per trip per day; which is really intended to be just bycatch of winter flounder. When you kind of stack these up against how the regulations have changed year over year, they haven't really. The measures I just showed you for 2016 have all been in place in its entirety since 2014, and some of these measures go back to even 2005.

Anything in blue is implemented in 2005 via Amendment 1, and yellow is in 2009 implementation. Green is 2012 implementation, and then in red was implemented in February of 2014. The main things about the current management measures, as Mark alluded to the New

England Fisheries Management Council did kind of discuss changes to the state subcomponents.

Those were suggested to the Council and the Council decided that they wanted to keep the status quo state subcomponents, so they are the same as they were last year, the same as when we made 2016 specifications. They stand up for Gulf of Maine winter flounder, the state subcomponent is 122 metric tons; and for Southern New England/Mid-Atlantic winter flounder the state subcomponent is 70 metric tons.

I did not prepare a slide specifically for that but this is in the briefing document that was submitted in briefing materials; so it's in a Word document and it is on the very first page, there is Table 1. With that I would take questions on any of the current management measures or any questions on the state subcomponent as they are now.

CHAIRMAN GIBSON: Questions for Ashton? Seeing none; my question is, and I can't remember for either Ashton or my Council colleagues. I believe we have a set of operational assessment updates for all the groundfish stocks coming, probably being worked on maybe as we speak; or the working groups are getting organized.

If that is correct, it would seem we would have a stronger informational basis after those reports are received a year from now, in terms of considering changes to our state waters acidification. Terry is that the right schedule, we're going to see results of those in the fall this year and specifications for 2018? Thank you. With that is there anyone wishing to discuss specifications for the 2017 fishing year? Are there any motions to make adjustments? Yes, Doug Grout.

MR. DOUGLAS E. GROUT: No motions, Mr. Chair, but I did want to make a comment that since we're going to be having an operational assessment and the Council will be setting

three-year specifications next year. It might be worth this Board considering, or at least the possibility of setting multiyear specifications; since we really haven't been changing our specifications.

Rather than having to come have this meeting just for the purpose of affirming that we don't want to make any changes; that there is some mechanism that we can put in play that we would set multiyear specifications. It might make us a little more efficient. It doesn't mean we couldn't come back if something drastic happens in between; but just a thought to throw into the heads of the Board.

CHAIRMAN GIBSON: Ashton, could you comment on whether our current addendum allows for that or do we need to initiate an action to allow for that?

MS. HARP: All I was going to say, and Toni might follow up, is that just in Addendum III it allows the Board to make the specifications through Board action. Usually they have to be done by an addendum, a new addendum; so I don't think it would preclude the fact that they could be three-year specifications.

MS. TONI KERNS: I need to double check the language in the document if we have multiple year specifications in there or not. I don't remember off the top of my head. I can get back to you, two seconds.

CHAIRMAN GIBSON: Are you okay with that Doug, we'll look into it and we don't need an answer today, we could consider it next time around. It seems to make some sense and we can check on what allowance we have or if we need to make some adjustments to allow for that. Anything else from the Board? David Borden.

MR. DAVID V. D. BORDEN: Just a comment that I hope that when we get the new specifications that the Commission can make more of an effort to try to align the state and federal regulations. Right now there is a major disconnect; and I just don't think the arrangement is working in the best

interest of the stock. I hope we take that up next year.

CHAIRMAN GIBSON: Is anyone else wishing to comment, yes, Toni.

MS. KERNS: My two seconds are up. You have the ability to do three-year specifications.

CHAIRMAN GIBSON: We have that ability currently, okay that's good to know. Where we are right now is the specification will remain intact for the next groundfish fishing year being May 1st, 2017. We'll receive operational assessment updates later this year. A year from now we'll be in a position to contemplate changes including fixing them for a longer period than one year.

#### **ADJOURNMENT**

CHAIRMAN GIBSON: That is where we're at, anything else from the Board on specifications or anything on winter flounder in general? Seeing none; I think our business is concluded. Is there a motion to adjourn? Moved and seconded by everybody. We stand adjourned.

(Whereupon, the meeting was adjourned at 12:43 o'clock p.m., January 31, 2017.)

## 19 Gulf of Maine winter flounder

Paul Nitschke

*This assessment of the Gulf of Maine winter flounder (*Pseudopleuronectes americanus*) stock is an operational assessment of the existing 2015 operational assessment area-swept assessment (NEFSC 2015). Based on the previous assessment the biomass status is unknown but overfishing was not occurring. This assessment updates commercial and recreational fishery catch data, research survey indices of abundance, and the area-swept estimates of 30+ cm biomass based on the fall NEFSC, MDMF, and MENH surveys.*

**State of Stock:** Based on this updated assessment, the Gulf of Maine winter flounder (*Pseudopleuronectes americanus*) stock biomass status is unknown and overfishing is not occurring (Figures 90-91). Retrospective adjustments were not made to the model results. Biomass (30+ cm mt) in 2016 was estimated to be 2,585 mt (Figure 90). The 2016 30+ cm exploitation rate was estimated to be 0.086 which is 37% of the overfishing exploitation threshold proxy ( $E_{MSY}$  proxy = 0.23; Figure 91).

Table 54: Catch and status table for Gulf of Maine winter flounder. All weights are in (mt) and  $E_{Full}$  is the exploitation rate on 30+ cm fish. Biomass is estimated from survey area-swept for non-overlapping strata from three different fall surveys (MENH, MDMF, NEFSC) using an updated q estimate of 0.87 on the wing spread from the sweep study (Miller et al., 2017).

	2011	2012	2013	2014	2015	2016
	<i>Data</i>					
Recreational discards	4	1	1	2	1	6
Recreational landings	38	22	29	55	27	24
Commercial discards	4	10	6	5	2	3
Commercial landings	173	348	218	213	186	188
Catch for Assessment	219	381	254	275	217	221
	<i>Model Results</i>					
30+ cm Biomass	4,618	2,312	2,032	3,225	2,307	2,585
$E_{Full}$	0.047	0.165	0.125	0.085	0.094	0.086

Table 55: Comparison of reference points estimated in an earlier assessment and from the current assessment update. An  $E_{40\%}$  exploitation rate proxy was used for the overfishing threshold and was based on a length based yield per recruit model from the 2011 SARC 52 benchmark assessment.

	2015	2017
$E_{MSY}$ proxy	0.23	0.23
$B_{MSY}$	Unknown	Unknown
MSY (mt)	Unknown	Unknown
Overfishing	No	No
Overfished	Unknown	Unknown



**Projections:** Projections are not possible with area-swept based assessments. Catch advice was based on 75% of  $E_{40\%}$  (75%  $E_{MSY}$  proxy) using the fall area-swept estimate assuming  $q=0.87$  on the wing spread which was updated using the average efficiency from 2009-2016 from the sweep experiment (Miller et al., 2017). Updated 2016 fall 30+ cm area-swept biomass (2,585 mt) implies an OFL of 595 mt based on the  $E_{MSY}$  proxy and a catch of 446 mt for 75% of the  $E_{MSY}$  proxy.

### Special Comments:

- What are the most important sources of uncertainty in this stock assessment? Explain, and describe qualitatively how they affect the assessment results (such as estimates of biomass, F, recruitment, and population projections).  
*The largest source of uncertainty with the direct estimates of stock biomass from survey area-swept estimates originates from the survey gear catchability ( $q$ ). Biomass and exploitation rate estimates are sensitive to the survey  $q$  assumption. However this 2017 update does incorporate the use of an estimated  $q$  through an average estimate of efficiency from 2009-2016 ( $q=0.87$ ) from the sweep study for the NEFSC survey. This updated  $q$  assumption (0.87) results in a lower estimate of 30+ biomass (2,585 mt) relative to the original  $q=0.6$  assumption (3,731 mt) from the fall surveys. Another major source of uncertainty with this method is that biomass based reference points cannot be determined and overfished status is unknown.*
- Does this assessment model have a retrospective pattern? If so, is the pattern minor, or major? (A major retrospective pattern occurs when the adjusted SSB or  $F_{Full}$  lies outside of the approximate joint confidence region for SSB and  $F_{Full}$ ; see Table 8).  
*The model used to determine status of this stock does not allow estimation of a retrospective pattern. An analytical stock assessment model does not exist for Gulf of Maine winter flounder. An analytical model was no longer used for stock status determination at SARC 52 (2011) due to concerns with a strong retrospective pattern. Models have difficulty with the apparent lack of a relationship between a large decrease in the catch with little change in the indices and age and/or size structure over time.*
- Based on this stock assessment, are population projections well determined or uncertain? If this stock is in a rebuilding plan, how do the projections compare to the rebuilding schedule?  
*Population projections for Gulf of Maine winter flounder do not exist for area-swept assessments and stock biomass status is unknown. Catch advice from area-swept estimates tend to vary with interannual variability in the surveys. Stabilizing the catch advice may also be desired and could be obtained through the averaging of the area-swept fall and spring survey estimates or through the use of a moving average across years.*
- Describe any changes that were made to the current stock assessment, beyond incorporating additional years of data and the effect these changes had on the assessment and stock status.  
*The assumption on  $q$  changed from 0.6 to 0.87 using information from the sweep experiment (Miller et al., 2017) and incorporation of new survey data were made to this Gulf of Maine winter flounder assessment update.*

- If the stock status has changed a lot since the previous assessment, explain why this occurred.

*The overfishing status of Gulf of Maine winter flounder has not changed.*

- Provide qualitative statements describing the condition of the stock that relate to stock status.

*The Gulf of Maine winter flounder has relatively flat survey indices with little change in the size structure over time. There have been large declines in the commercial and recreational removals since the 1980s. However, this large decline over the time series does not appear to have resulted in a response in the stock's size structure within the catch and surveys nor has it resulted in a change in the survey indices of abundance.*

- Indicate what data or studies are currently lacking and which would be needed most to improve this stock assessment in the future.

*Direct area-swept assessments could be improved with additional studies on federal and state survey gear efficiency. Quantifying the degree of herding between the doors and escapement under the footrope and/or above the headrope for state surveys is needed to improve the area-swept biomass estimates. Studies quantifying winter flounder abundance and distribution among habitat types and within estuaries could improve the biomass estimate.*

- Are there other important issues?

*The general lack of a response in survey indices and age/size structure are the primary sources of concern with catches remaining far below the overfishing level.*

## 19.1 Reviewer Comments: Gulf of Maine winter flounder

### Assessment Recommendation:

The panel concluded that the operational assessment was acceptable as a scientific basis for management advice, including the decision to use a revised average catchability estimate from the recent cooperative research project on fall survey catchability.

### Alternative Assessment Approach:

Not applicable

### Status Recommendation:

Based on this operational assessment, the panel supports the conclusion that the Gulf of Maine winter flounder stock biomass status is unknown and overfishing is not occurring. The Gulf of Maine winter flounder has relatively flat survey indices with little change in the size structure over time. There have been large declines in the commercial and recreational removals since the 1980s. However, this large decline over the time series does not appear to have resulted in a response in the stock's size structure within the catch and surveys nor has it resulted in a change in the survey indices of abundance.

### Key Sources of Uncertainty:

The largest source of uncertainty concerns the direct estimates of stock biomass from survey area-swept estimates originating from the survey gear catchability ( $q$ ), in part due to small sample sizes and application to different gear types and other surveys. Another major source of uncertainty with this method is that biomass based reference points cannot be determined and overfished status is unknown. The general lack of a response in survey indices and age/size structure are the primary sources of concern with catches remaining far below the overfishing level.

### Research Needs:

The panel recommends additional studies on federal and state survey gear efficiency. Quantifying the degree of herding between the doors and escapement under the footrope and/or above the headrope for state surveys is also warranted. Studies quantifying winter flounder abundance and distribution among habitat types and within estuaries could improve biomass estimates. The panel further recommends consideration of including additional surveys (e.g., spring trawl survey). Finally, a moving average approach to estimating catch advice (rather than based on a single year) should be considered to stabilize catch advice.

**References:**

Northeast Fisheries Science Center. 2015. Operational Assessment of 20 Northeast Groundfish Stocks, Updated Through 2014. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 15-24; Commer, Northeast Fish Sci Cent Ref Doc. 15-01; 251 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026. [CRD15-24](#)

Northeast Fisheries Science Center. 2011. 52<sup>nd</sup> Northeast Regional Stock Assessment Workshop (52<sup>nd</sup> SAW) Assessment Report. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 11-17; 962 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026. [CRD11-17](#)

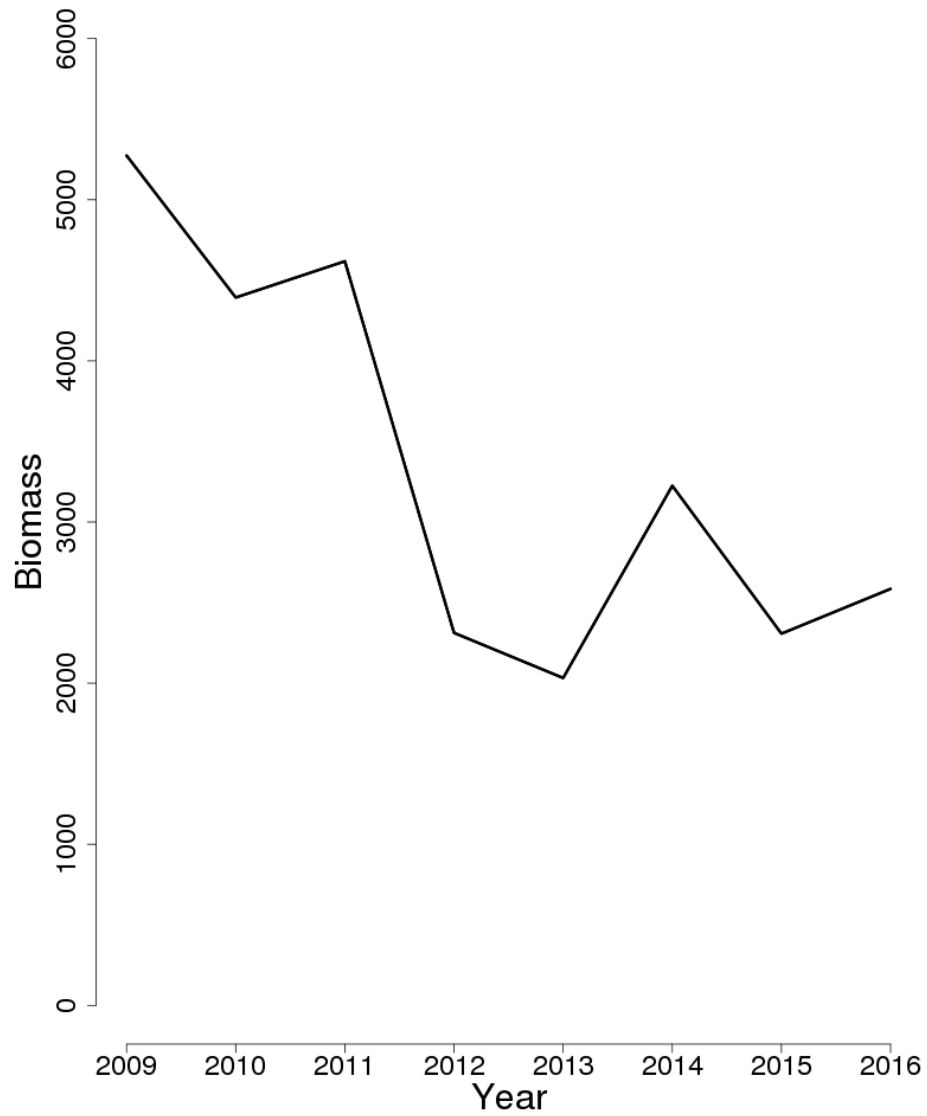


Figure 90: Trends in 30+ cm area-swept biomass of Gulf of Maine winter flounder between 2009 and 2016 from the current assessment based on the fall (MENH, MDMF, NEFSC) surveys.

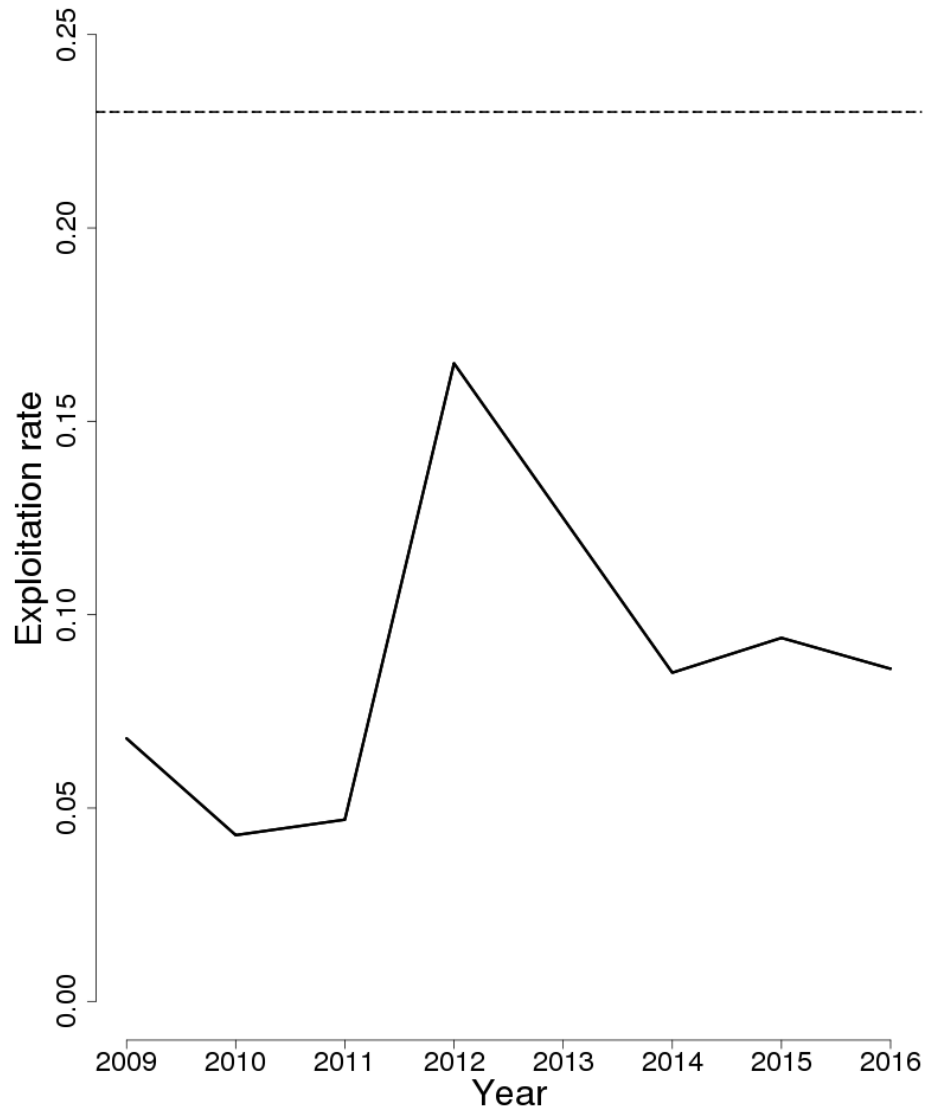


Figure 91: Trends in the exploitation rates ( $E_{Full}$ ) of Gulf of Maine winter flounder between 2009 and 2016 from the current assessment and the corresponding  $F_{Threshold}$  ( $E_{MSY}$  proxy=0.23; horizontal dashed line).

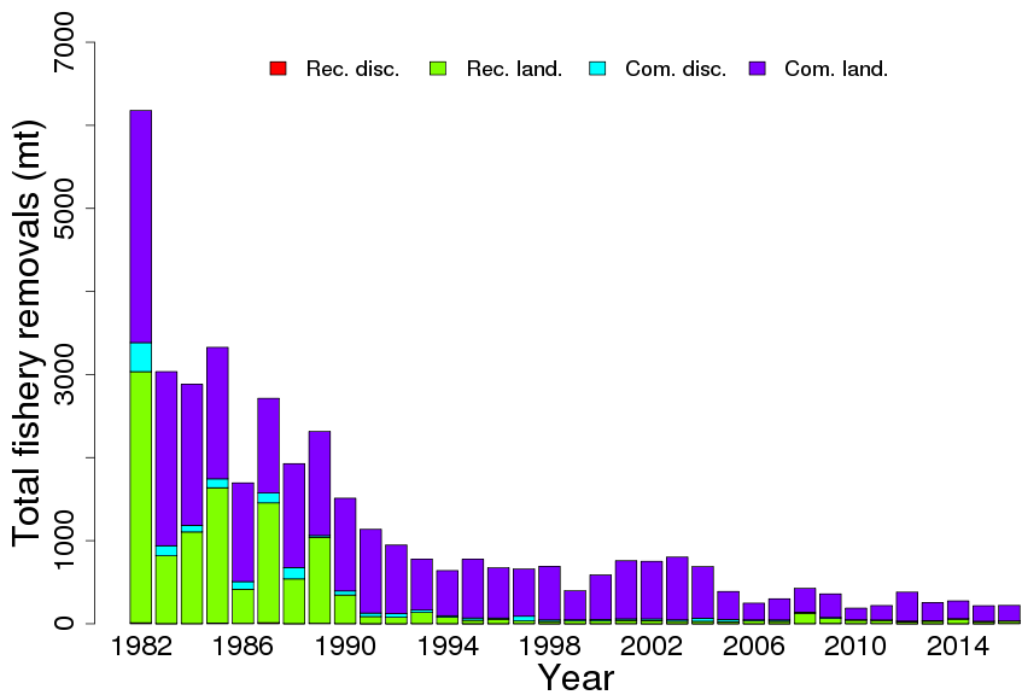


Figure 92: Total catch of Gulf of Maine winter flounder between 2009 and 2016 by fleet (commercial and recreational) and disposition (landings and discards). A 15% mortality rate is assumed on recreational discards and a 50% mortality rate on commercial discards.

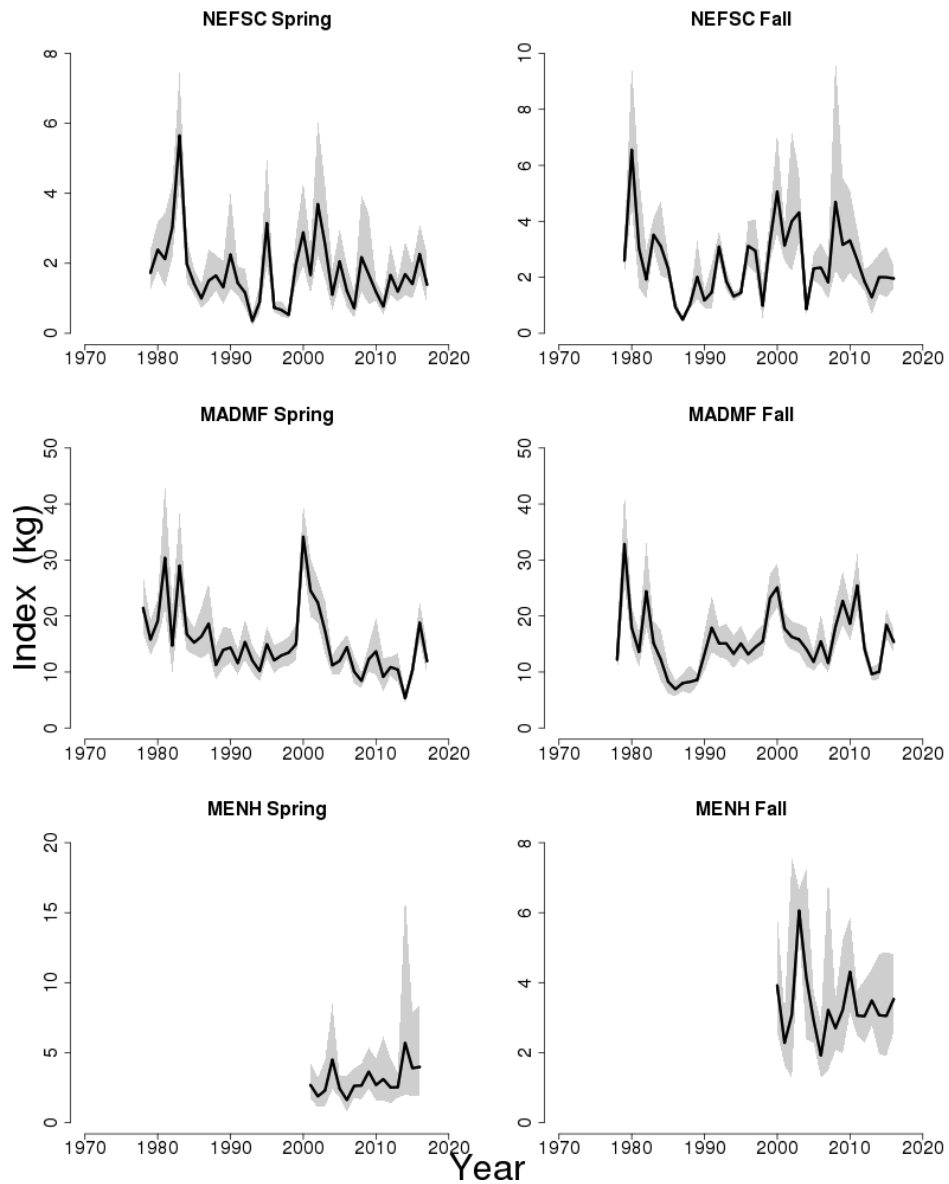


Figure 93: Indices of biomass for the Gulf of Maine winter flounder between 1978 and 2017 for the Northeast Fisheries Science Center (NEFSC), Massachusetts Division of Marine Fisheries (MDMF), and the Maine New Hampshire (MENH) spring and fall bottom trawl surveys. NEFSC indices are calculated with gear and vessel conversion factors where appropriate. The approximate 90% lognormal confidence intervals are shown.



## 9 Southern New England Mid-Atlantic winter flounder

Anthony Wood

*This assessment of the Southern New England Mid-Atlantic winter flounder (*Pseudopleuronectes americanus*) stock is an operational assessment of the existing 2011 benchmark assessment (NEFSC 2011). This assessment follows a previous operational update in 2015 where the stock was overfished, but overfishing was not occurring (NEFSC 2015). This assessment updates commercial fishery catch data, recreational fishery catch data, and research survey indices of abundance, and the analytical ASAP assessment models and reference points through 2016. Additionally, stock projections have been updated through 2020.*

**State of Stock:** Based on this updated assessment, the Southern New England Mid-Atlantic winter flounder (*Pseudopleuronectes americanus*) stock is overfished but overfishing is not occurring (Figures 44-45). Retrospective adjustments were not made to the model results. Spawning stock biomass (SSB) in 2016 was estimated to be 4,360 (mt) which is 18% of the biomass target (24,687 mt), and 36% of the biomass threshold for an overfished stock ( $SSB_{Threshold} = 12343.5$  (mt); Figure 44). The 2016 fully selected fishing mortality was estimated to be 0.21 which is 62% of the overfishing threshold ( $F_{MSY} = 0.34$ ; Figure 45).

Table 29: Catch and status table for Southern New England Mid-Atlantic winter flounder. All weights are in (mt), recruitment is in (000s), and  $F_{Full}$  is the fishing mortality on fully selected ages (ages 4 and 5). Model results are from the current updated ASAP assessment.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<i>Data</i>										
Recreational discards	5	3	9	8	18	2	4	1	2	2
Recreational landings	116	73	87	28	65	31	7	30	10	33
Commercial discards	118	109	165	153	298	483	206	64	82	124
Commercial landings	1,628	1,113	271	174	150	134	857	658	655	519
Catch for Assessment	1,867	1,298	532	363	531	650	1,074	753	749	678
<i>Model Results</i>										
Spawning Stock Biomass	6,710	5,801	5,178	5,878	6,932	6,964	6,763	5,661	5,090	4,360
$F_{Full}$	0.36	0.28	0.12	0.07	0.1	0.12	0.21	0.19	0.2	0.21
Recruits (age 1)	6,157	9,140	7,075	6,532	4,873	4,464	2,390	4,102	5,742	7,549

Table 30: Comparison of reference points estimated in the 2015 operational assessment and from the current assessment update.  $F_{MSY}$  was generated assuming a Beverton-Holt S-R relationship and an  $SSB_{MSY}$  proxy was used for the overfished threshold and was based on long-term stochastic projections. Recruitment estimates are median values of the time-series. 90% CI are shown in parentheses.

	2011	2017
$F_{MSY}$	0.325	0.34
$SSB_{MSY}$ (mt)	26,928	24,687 (16,919 - 36,693)
MSY (mt)	7,831	7,532 (4,991 - 11,570)
Median recruits (age 1) (000s)	16,448	15,802
<i>Overfishing</i>	No	No
<i>Overfished</i>	Yes	Yes

**Projections:** Short term projections of biomass were derived by sampling from a cumulative distribution function of recruitment estimates assuming a Beverton-Holt stock recruitment relationship. The annual fishery selectivity, maturity ogive, and mean weights at age used in the projection are the most recent 5 year averages; The model exhibited a minor retrospective pattern in F and SSB so no retrospective adjustments were applied in the projections.

Table 31: Short term projections of total fishery catch and spawning stock biomass for Southern New England Mid-Atlantic winter flounder based on a harvest scenario of fishing at  $F_{MSY}$  between 2018 and 2020. Catch in 2017 was assumed to be 625 (mt), a value provided by GARFO (Dan Caless pers. comm.). 90% CI are shown next to SSB estimates.

Year	Catch (mt)	SSB (mt)	$F_{Full}$
2017	625	4,058 (3,238 - 5,029)	0.190
Year	Catch (mt)	SSB (mt)	$F_{Full}$
2018	1,228	4,336 (3,490 - 5,327)	0.340
2019	1,326	4,177 (3,411 - 5,091)	0.340
2020	1,736	4,889 (3,647 - 7,192)	0.340

**Special Comments:**

- What are the most important sources of uncertainty in this stock assessment? Explain, and describe qualitatively how they affect the assessment results (such as estimates of biomass, F, recruitment, and population projections).

*A large source of uncertainty is the estimate of natural mortality based on longevity, which is not well studied in Southern New England Mid-Atlantic winter flounder, and assumed constant over time. Natural mortality affects the scale of the biomass and fishing mortality estimates. Natural mortality was adjusted upwards from 0.2 to 0.3 during the last benchmark assessment (2011) assuming a max age of 16. However, there is still uncertainty in the true max age of the population and the resulting natural mortality estimate. Other*

*sources of uncertainty include length distribution of the recreational discards. The recreational discards are a small component of the total catch, but the assessment suffers from very little length information used to characterize the recreational discards (1 to 2 lengths in recent years).*

- Does this assessment model have a retrospective pattern? If so, is the pattern minor, or major? (A major retrospective pattern occurs when the adjusted SSB or  $F_{Full}$  lies outside of the approximate joint confidence region for SSB and  $F_{Full}$ ; see Table 8).

*The retrospective patterns for both  $F_{full}$  and SSB are minor and no retrospective adjustment in 2016 was required.*

- Based on this stock assessment, are population projections well determined or uncertain? If this stock is in a rebuilding plan, how do the projections compare to the rebuilding schedule?

*Population projections for Southern New England Mid-Atlantic winter flounder are reasonably well determined. There is uncertainty in the estimates of  $M$ . In addition, while the retrospective pattern is considered minor (within the 90% CI of both  $F$  and SSB), the rho adjusted terminal value of  $F$  is close to falling outside of the bounds which would indicate a major retrospective pattern. This would lead to retrospective adjustments being needed for the projections. The stock is in a rebuilding with a rebuild date of 2023. A projection using assumed catch in 2017 and  $F = 0$  through 2023 indicated a less than 1% chance of reaching the SSB target.*

- Describe any changes that were made to the current stock assessment, beyond incorporating additional years of data and the effect these changes had on the assessment and stock status.

*No changes, other than the incorporation of new data, were made to the Southern New England Mid-Atlantic winter flounder assessment for this update.*

- If the stock status has changed a lot since the previous assessment, explain why this occurred.

*The stock status of Southern New England Mid-Atlantic winter flounder has not changed since the previous operational update in 2015 and remains the same as during the last benchmark assessment in 2011.*

- Provide qualitative statements describing the condition of the stock that relate to stock status.

*The Southern New England Mid-Atlantic winter flounder stock shows an overall declining trend in SSB over the time series, with current estimates near the time series low. Estimates of fishing mortality have remained steady since 2012 and recruitment has steadily increased since an all time low in 2013. Current recruitment estimates are above the ten year average and are the highest since 2008.*

- Indicate what data or studies are currently lacking and which would be needed most to improve this stock assessment in the future.

*The Southern New England Mid-Atlantic winter flounder assessment could be improved with additional studies on maximum age, as well additional recreational discard lengths. In addition, further investigation into the localized struture/genetics of the stock is warranted. Also, a future shift to ASAP version 4 will provide the ability to model environmental factors that may influence both survey catchability and the modeled S-R relationship.*

- Are there other important issues?  
*None.*

## 9.1 Reviewer Comments: Southern New England Mid-Atlantic winter flounder

### Assessment Recommendation:

The panel concluded that the operational assessment with no adjustment for retrospective bias was acceptable as a scientific basis for management advice.

### Alternative Assessment Approach:

Not applicable

### Status Recommendation:

Based on this operational assessment, the panel supports the conclusion that the Southern New England Mid-Atlantic winter flounder stock is overfished but overfishing is not occurring. The Southern New England Mid-Atlantic winter flounder stock shows an overall declining trend in spawning stock biomass over the time series, with current estimates near the time series low. Estimates of fishing mortality have remained steady since 2012 and recruitment has steadily increased since an all-time low in 2013. Current recruitment estimates are above the ten year average and are the highest since 2008. The stock is currently in a rebuilding plan with a deadline of 2023; however, this assessment suggests a low probability of meeting the rebuilding deadline.

### Key Sources of Uncertainty:

A large source of uncertainty is the estimate of natural mortality based on longevity, which is not well studied in Southern New England Mid-Atlantic winter flounder, and assumed constant over time. There is still uncertainty in the true max age of the population and the resulting natural mortality estimate. Other sources of uncertainty include the fixed steepness value assumed in the stock-recruit relationship, and the length distribution of the recreational discards. Recreational discards are a small component of the total catch, but the assessment suffers from very little length information used to characterize the recreational discards (1 to 2 lengths in recent years).

### Research Needs:

The panel recommends additional studies to improve estimates of natural mortality, including studies on maximum age. The panel suggests considering the incorporation of additional recreational discard lengths. In addition, studies to update and investigate migration and movement rates and patterns, as well as further investigation into the localized structure/genetics of the stock is warranted. Also, a future shift to a model that will provide the ability to model environmental factors that may influence both survey catchability and the modeled stock-recruitment relationship. Finally, the panel recommends further examination of the patterns observed in the residuals from fits to the survey indices.

**References:**

Northeast Fisheries Science Center. 2011. 52<sup>nd</sup> Northeast Regional Stock Assessment Workshop (52<sup>nd</sup> SAW) Assessment Report. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 11-17; 962 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026.

Northeast Fisheries Science Center. 2015. Operational Assessment of 20 Northeast Groundfish Stocks, Updated through 2014. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 15-24; 251 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026.

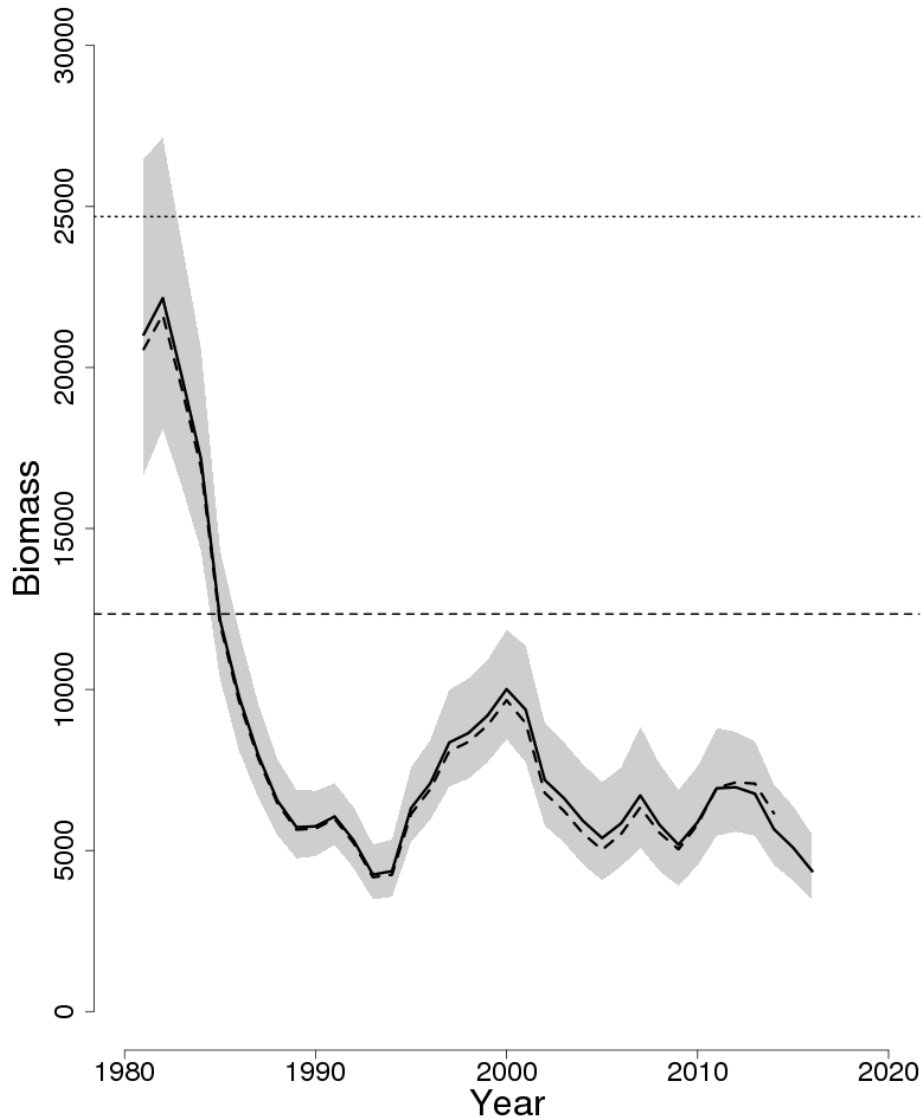


Figure 44: Trends in spawning stock biomass of Southern New England Mid-Atlantic winter flounder between 1981 and 2016 from the current (solid line) and previous (dashed line) assessment and the corresponding  $SSB_{Threshold}$  ( $\frac{1}{2} SSB_{MSY}$  proxy; horizontal dashed line) as well as  $SSB_{Target}$  ( $SSB_{MSY}$  proxy; horizontal dotted line) based on the 2017 assessment. The approximate 90% lognormal confidence intervals are shown.

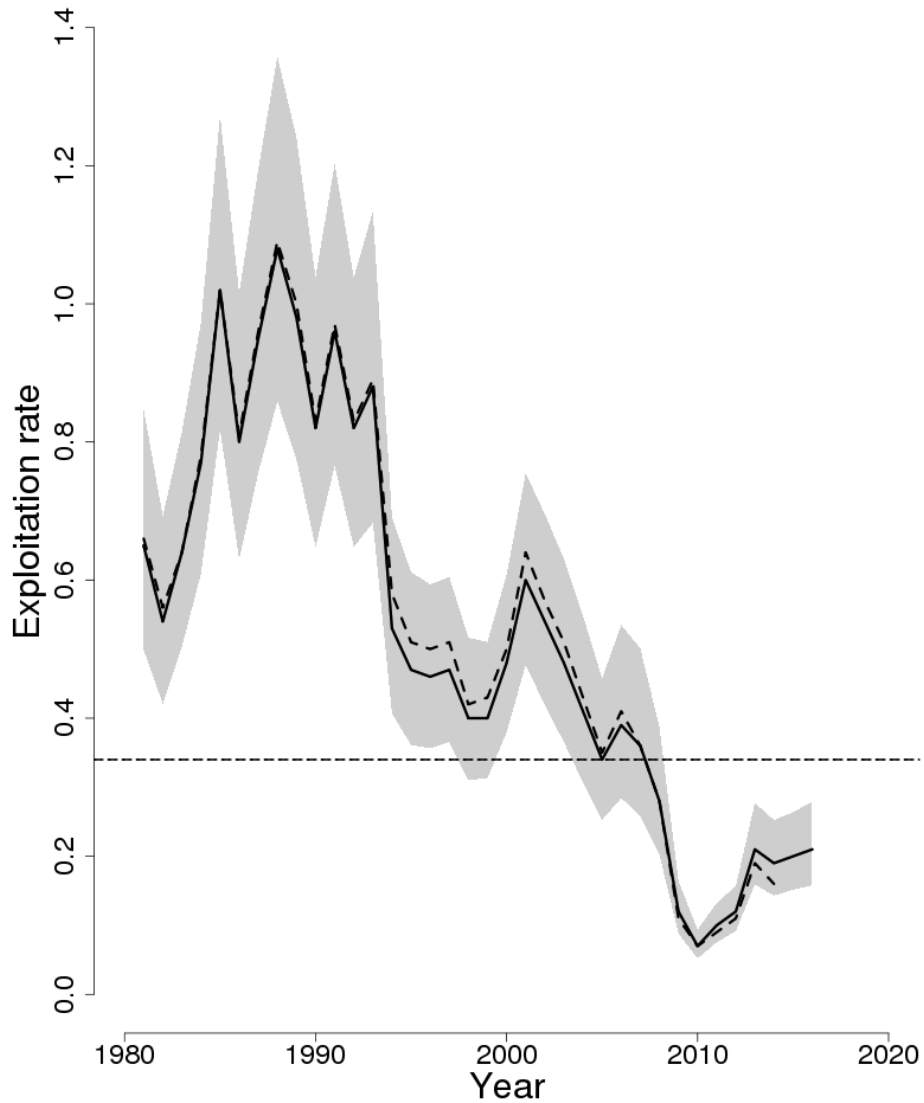


Figure 45: Trends in the fully selected fishing mortality ( $F_{Full}$ ) of Southern New England Mid-Atlantic winter flounder between 1981 and 2016 from the current (solid line) and previous (dashed line) assessment and the corresponding  $F_{Threshold}$  ( $F_{MSY}=0.34$ ; horizontal dashed line) based on the 2017 assessment. The approximate 90% lognormal confidence intervals are shown.



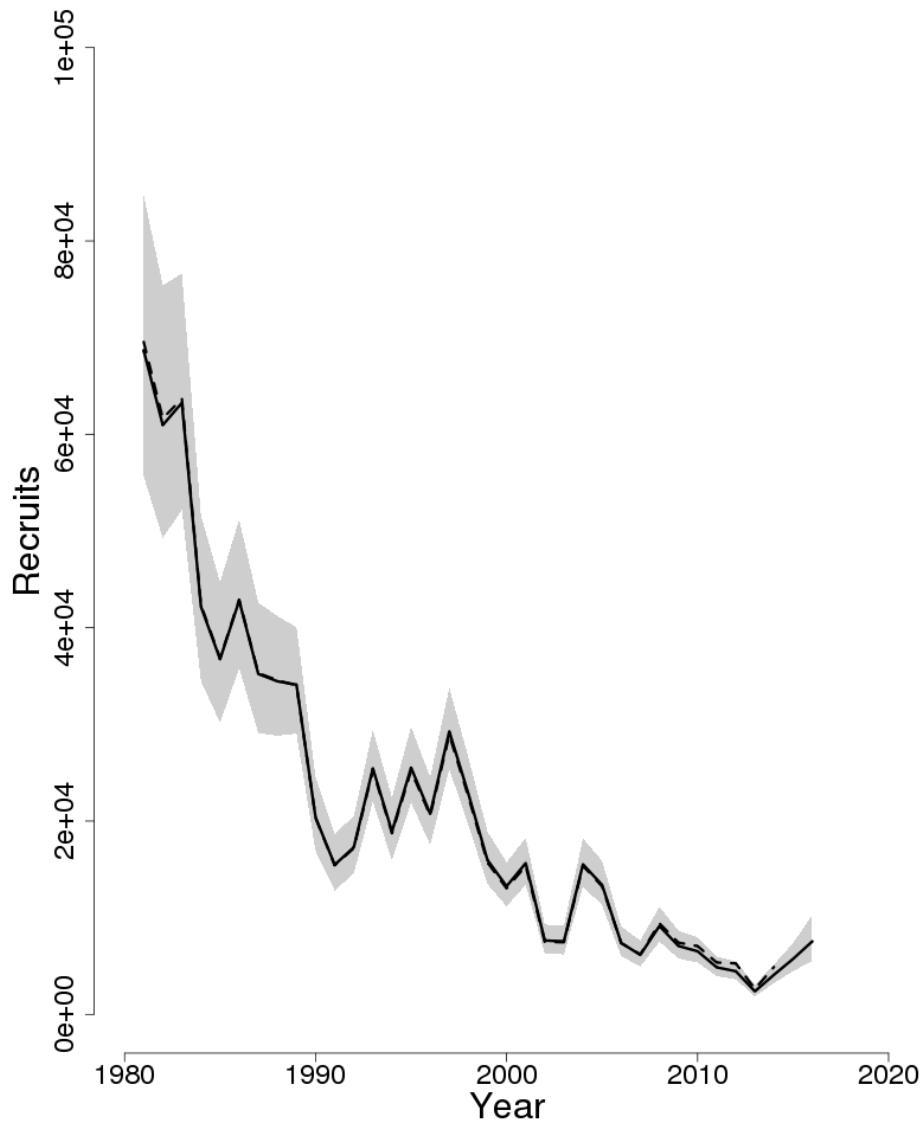


Figure 46: Trends in Recruits (age 1) (000s) of Southern New England Mid-Atlantic winter flounder between 1981 and 2016 from the current (solid line) and previous (dashed line) assessment. The approximate 90% lognormal confidence intervals are shown.

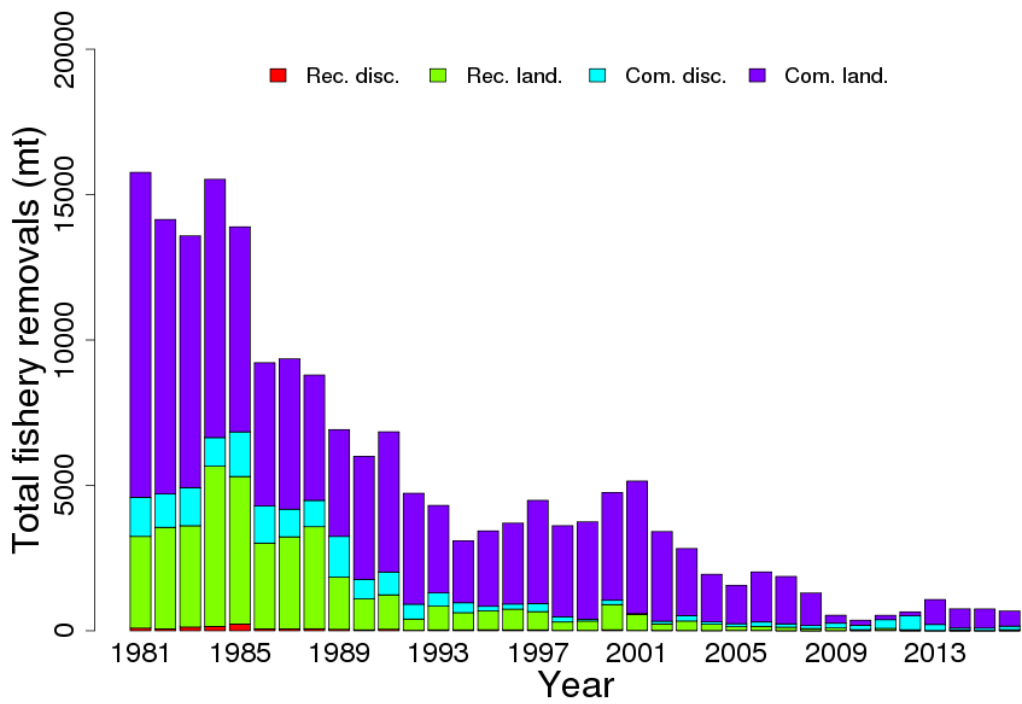


Figure 47: Total catch of Southern New England Mid-Atlantic winter flounder between 1981 and 2016 by fleet (commercial, recreational) and disposition (landings and discards).

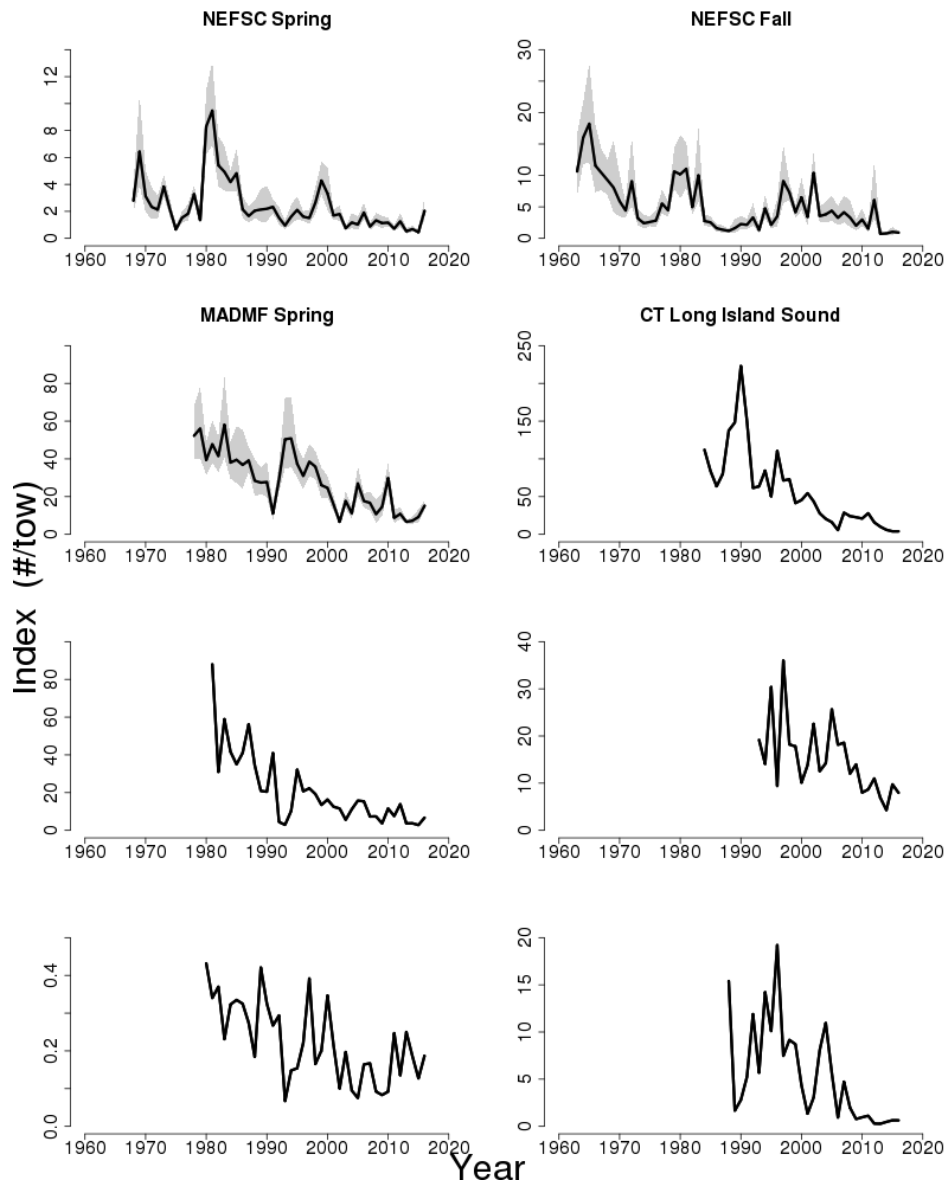


Figure 48: Indices of biomass for the Southern New England Mid-Atlantic winter flounder between 1963 and 2016 for the Northeast Fisheries Science Center (NEFSC) spring and fall bottom trawl surveys, the MADMF spring survey, the CT LISTS survey, the RIDFW Spring Trawl survey, the NJ Ocean Trawl survey, and two YoY surveys from MADMF and CT LISTS. Where available, the approximate 90% lognormal confidence intervals are shown.

## Briefing Document—Winter Flounder Specifications for the 2018 Fishing Year

At its December meeting, the NEFMC approved Framework 57 which included annual catch limits (ACLs) for Gulf of Maine (GOM) and Southern New England/Mid-Atlantic (SNE/MA) winter flounder stocks. The largest change occurred in the GOM stock, where the ACL was significantly reduced.

### GOM Stock

- The 2018 total ACL is 428 mt, a 348 mt decrease from the 2017 ACL of 776 mt.
- The 2018 state waters sub-component is 67 mt, a 55 mt decrease from the 2017 state waters sub-component of 122 mt.
- For context, 2016 total catch in state waters was 100.9 mt.

### SNE/MA Stock

- The 2018 total ACL is 700 mt, a 49 mt decrease from the 2017 ACL of 749 mt.
- The 2018 state waters sub-component is 73 mt, a 3 mt increase from the 2017 state waters sub-component of 70 mt.
- For context, 2016 total catch in state waters was 64.7 mt.

During the specification process, the Board can make changes to the following management measures through Board action:

- **Recreational measures:** size limit, bag limit, season
- **Commercial measures:** size limit, trip limit, season, area closure, trigger trip limit

Below is a table with the current management measures for winter flounder:

Stock	Sector	Trip Limit/ Possession Limit	Size Limit	Season	Gear
GOM	Commerical	500 lbs per trip per day	12"	Maintain closures	Minimum 6.5" square or diamond mesh in cod-end
	Recreational	8 fish	12"	NA	
SNE/MA	Commerical	50 lbs/ 38 fish per trip per day	12"	Maintain closures	Minimum 6.5" square or diamond mesh in cod-end. 100-lb mesh trigger.
	Recreational	2 fish	12"	March 1 – December 31	

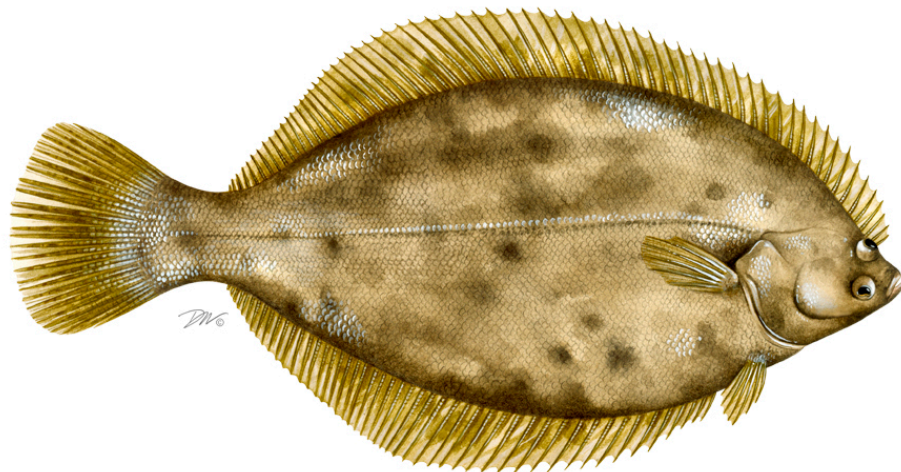
- Implemented in Amendment 1 in 2005
- Implemented in Addendum I in 2009
- Implemented in Addendum II in 2012; GOM trip limit increased from 250 lbs (via Addendum I) to 500 lbs.
- Varying closure dates were in place via Amendment 1, the new dates became effective through Board Action on February 2014

REVIEW OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION'S  
INTERSTATE FISHERY MANAGEMENT PLAN FOR

**WINTER FLOUNDER**

*(Pseudopleuronectes americanus)*

2013-2016



Prepared by the Winter Flounder Plan Review Team

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## I. Status of Fishery Management Plan

<u>Date of FMP Approval</u>	Original FMP (October 1988)
<u>Amendments</u>	Amendment 1 (November 2005)
<u>Addenda</u>	Addendum I (May 1992) Addendum II (February 1998) Addendum I to Amendment 1 (May 2009) Addendum II to Amendment 1 (October 2012) Addendum III to Amendment 1 (May 2013)
<u>Management Units</u>	Three stocks units: Gulf of Maine (GOM), Southern New England/ Mid-Atlantic (SNE/MA), and Georges Bank (GBK). Commission participates in management of GOM and SNE/MA stocks.
<u>States with Declared Interest</u>	Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey
<u>Active Boards/Committees</u>	Winter Flounder Management Board, Advisory Panel, Technical Committee, Plan Review Team

The Atlantic States Marine Fisheries Commission (Commission) and the New England Fishery Management Council (Council) manage winter flounder in state and federal waters. The Commission participates in the management of two inshore winter flounder stocks: 1) the Gulf of Maine (GOM) stock, which consists of waters north of Cape Cod; and 2) the Southern New England/Mid-Atlantic (SNE/MA) stock, which consists of waters south of Cape Cod to the Delaware-Maryland border. The decision to consider only inshore stocks of winter flounder was based upon the Commission's focus on fisheries in state waters, and the differences in biological characteristics from the offshore stock in Georges Bank. Although a large percentage of landings are taken from federal waters, this species migrates inshore every winter to spawn. As a result, fishing mortality on spawning populations in state waters has a direct impact on the entire GOM and SNE/MA stock complexes.

### **Interstate Fishery Management Plan (1988)**

The Commission authorized development of the first Fishery Management Plan (FMP) for Winter Flounder (*Pleuronectes americanus*) in October 1988. The purpose of the plan was to: 1) address management of inshore stocks of winter flounder; and 2) prominently consider habitat and environmental quality as factors affecting the condition of the resource. The original FMP and Addendum I called for reductions in fishing mortality on winter flounder. It allowed states the flexibility to achieve those reductions based on the life history characteristics of the particular stocks inhabiting each region. Implementation of the plan required cooperation between state fishery management agencies, National Marine Fisheries Service, the Council, and the Commission.

Although all states submitted plans that were approved by the Winter Flounder Management Board (Board), results from a 1995 stock assessment concluded that none of the states achieved a fishing mortality rate corresponding to  $F_{30}$ . Subsequent analyses in early January 1997 indicated that fishing mortality on a coastwide basis was slightly higher than the  $F_{30}$  target for the SNE/MA stock complex. Fishing mortality in the GOM stock was presumed to be higher and the spawning stock biomass at a low level, indicating that the GOM unit might be in greater need of rebuilding than the SNE/MA unit.

In February 1998, the Board approved Addendum II to the FMP. Addendum II adjusted the implementation schedule for management measures by the participating states and called for plans to reach the target fishing mortality goal for rebuilding ( $F_{40}$ ).

### **Amendment 1 (2005)**

In May 1999, the Board acknowledged that it was necessary to update the Interstate FMP for Inshore Stocks of Winter Flounder through an amendment. The original plan and addenda did not prove successful in rebuilding inshore winter flounder populations. In addition, the FMP did not reflect the goals and objectives of the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA), which was established in 1993 after the original FMP was approved. The Board further noted that an upcoming stock assessment would likely provide new information on the status of winter flounder stock complexes. After the assessment was completed in late 2002, the Commission began development of Amendment 1 in February 2003.

Amendment 1 to the Interstate FMP for Inshore Stocks of Winter Flounder, approved in November 2005, replaced all previous Commission management plans. It focused on joint management of winter flounder between the Commission and Council, and was designed to rebuild and maintain spawning stock biomass at or near target biomass levels. In addition, Amendment 1 prioritized restoration and maintenance of essential winter flounder habitat.

Amendment I required a minimum size limit of 12 inches for commercial and recreational fisheries for both GOM and SNE/MA stock units. Recreational creel limits were ten (10) fish in the SNE/MA stock area and eight (8) fish in the GOM. There were no required closed recreational seasons in the GOM, while a closed season of 20 days during March and April was required in SNE/MA. The 60-day open season for recreational winter flounder fishing could be split into no more than 2 blocks. States were required to implement a minimum size of 6.5 inches square or diamond mesh for the cod-end in both GOM and SNE/MA inshore waters. Additionally, a 100-pound trip limit was required if smaller mesh is being used in the SNE/MA. This “mesh trigger” was intended for the landing of a small amount of winter flounder as bycatch in small-mesh fisheries.

### ***Addendum I to Amendment 1 (2009)***

Addendum I was approved in May 2009, following the 2008 GARM III stock assessment which indicated that the SNE/MA spawning stock biomass was only 9% of the target and the GOM



stock was likely to be overfished and experiencing overfishing. For the GOM commercial fishery, Addendum I established a maximum possession limit of 250 pounds per vessel. This limit was estimated to reduce 2006-2007 harvest levels by 31% for state water fishing vessels. For the GOM recreational fishery, Addendum I required states to implement regulations to reduce fishing mortality by 11% from the average of 2006-2007 levels. This 11% reduction was estimated to reach  $F_{MSY}$ . States were allowed to achieve reductions through possession limits, seasons, or a combination of both, and also had the option to submit conservation equivalency proposals to achieve the necessary reductions through alternative management measures, subject to approval by the Board.

For SNE/MA, Addendum I's management measures were designed to reach the lowest F rate possible with minimal economic and social impacts and dead discards, and to prevent an influx of effort into state waters. Non-federally permitted commercial vessels were permitted to possess a maximum of 50 pounds of winter flounder. This level was estimated to reduce harvest by 65%, and was intended solely to allow for bycatch. Recreational fishermen were permitted to possess a maximum of two (2) winter flounder from inshore waters of the SNE/MA stock area. This bag limit was estimated to reduce harvest by 46%.

#### ***Addendum II to Amendment 1 (2012)***

In response to updated stock status information and federal action to substantially increase the GOM winter flounder state waters annual catch limit subcomponent, the Board initiated Addendum II to Amendment 1 of the Winter Flounder Interstate FMP. This Addendum changed commercial and recreational management measures for the state waters component of the GOM stock only. Specifically, it increased the maximum possession limit for non-federally permitted commercial vessels to 500 pounds. It also removed the 11% reduction in F for the recreational fishery and allowed states the option to open their recreational fishing season year-round.

#### ***Addendum III to Amendment 1 (2013)***

Addendum III established an annual specification process to set commercial and recreational management measures for the GOM and SNE/MA fisheries. Each year, with advice from the Winter Flounder Technical Committee, the Board can adjust trip limits, size limits, and seasons for the commercial fishery; and size limits, bag limits, and seasons for the recreational fishery. The Addendum enables the Commission to quickly respond to federal actions and changes in the winter flounder fishery.

## **II. Status of Stocks**

The most recent peer reviewed stock assessment for all three winter flounder stocks was conducted by the Northeast Fisheries Science Center in 2017. These operational stock assessments included data through 2016.

### **Gulf of Maine**

The 2017 operational stock assessment determined that GOM winter flounder stock biomass

status is unknown and overfishing is not occurring. 2016 biomass (30+ cm) was estimated to be 2,585 metric tons (mt) and the exploitation rate was estimated to be 0.086, below the exploitation threshold of 0.23. The assessment noted that there have been significant declines in commercial and recreational removals since the 1980's; however, this has not resulted in a contraction of the stock's size structure within the catch. Significant sources of uncertainty include gear catchability and deriving stock biomass from area-swept survey estimates. (Source: Groundfish Operational Assessments 2017)

### **Southern New England/Mid-Atlantic**

The 2017 operational stock assessment concluded that the SNE/MA winter flounder stock is overfished but overfishing is not occurring. Specifically, the 2016 spawning stock biomass (SSB) was estimated to be 4,360 mt, well below the biomass threshold of 12,343.5 mt. In addition, fishing mortality was estimated to be 0.21 in 2016, below the threshold of  $F_{MSY}=0.34$ . The assessment noted that there is an overall declining trend in SSB throughout the time series; however, recruitment has increased from a historic low in 2013. Notable sources of uncertainty include the estimate of natural mortality and the length distribution of recreational discards, given they represent a small portion of catch. (Source: Groundfish Operational Assessments 2017)

## **III. Status of the Fishery**

### **Stockwide**

Across all stocks (GOM, SNE/MA, and GBK), the winter flounder fisheries are a fraction of their historic productivity. Specifically, commercial and recreational landings have declined since the early 1980s (Table 1, Figure 3).

**Commercial landings** peaked at 18,279 mt (40.3 million lbs) in 1981, the highest since 1950, but have generally declined throughout the 1990's and 2000's. In 2013 commercial landings were 2,745 mt (6.1 million lbs), in 2014 were 1,980 mt (4.4 million lbs), in 2015 were 1,701 mt (3.7 million lbs), and in 2016 were 1,162 mt (2.6 million lbs). A majority of the landings were taken in Massachusetts (Table 2). It is important to note that management action has impacted yearly landings as annual catch limits increased in 2011 and 2012, and a moratorium was in place for the SNE/MA stock between May 2009 and April 2013. (Landings source: NMFS)

The primary commercial gear used to harvest winter flounder in 2016 was the otter trawl, followed by gill nets and dredge. Landings of winter flounder primarily occurred in May and June.

**Recreational harvest** was 33.7 mt (74,291 lbs) in 2013, 85.0 mt (187,292 lbs) in 2014, 40.0 mt (88,264 lbs) in 2015, and 48.8 mt (107,458 lbs) in 2016 (Table 3). These recent recreational catch values represent a significant decrease from the 7,446.8 mt (16,417,409 lbs) caught in 1982. Between 2013 and 2016, Massachusetts, New Jersey, and New York comprised the

majority of coastwide recreational winter flounder landings, at 67%, 9%, and 15%, respectively. (Landings source: MRIP)

### **Gulf of Maine**

**Commercial landings** of Gulf of Maine winter flounder have substantially declined since the early 1980s, with recent landings being roughly 7% of harvest levels in the 1980s. From 1964 through the mid-1970s, commercial landings were near 1,000 mt. Productivity peaked at nearly 2,793 mt in 1982, and steadily decreased to a record low of 139 mt in 2010. In 2016, landings in the GOM winter flounder stock were 200.5 mt (does not include discards), of which 93.5 mt were landed in state waters (Source: NMFS)

**Recreational landings** also peaked in 1982, at 3,024 mt. Landings have generally declined, and in 2016 were 24 mt. Recreational releases make up a small portion of catch. (Source: Groundfish Operational Assessments 2017)

### **Southern New England/Mid-Atlantic**

**Commercial landings** of SNE/MA winter flounder generally declined throughout the time series from 1964 to 2010, with periodic peaks and dips. After reaching a historical peak of 11,977 mt in 1966 and then declining through the 1970s, total U.S. commercial landings again peaked at 11,176 mt in 1981. After 1981, SNE/MA commercial landings declined to 2,159 mt in 1994 and then increased to 4,672 mt in 2001. Commercial landings have generally decreased since the 2001 peak, and were just 134 mt in 2012 (in part due to the zero possession limit in federal waters). Landings in the SNE/MA winter flounder stock in 2016 was 524.3 mt (does not include discards), of which 63.0 mt were landed in state waters. (Source: NMFS)

**Recreational landings** of SNE/MA winter flounder peaked in 1984 with 5,510 mt and substantially declined until reaching an all-time low of 7 mt in 2013. In 2016, 33 mt were recreationally landed. The principal mode of fishing is private/rental boats, with most recreational landings occurring during May to June. (Source: Groundfish Operational Assessments 2017)

## **IV. Status of Research and Monitoring**

Amendment 1 to the Interstate Fishery Management Plan for Winter Flounder requires the following research and monitoring activities by certain states (Table 5):

- Massachusetts, Rhode Island, and New York are required to conduct annual surveys of juvenile recruitment to develop an annual juvenile abundance index.
- Massachusetts, Rhode Island, Connecticut, and New Jersey are required to conduct annual surveys to develop an index of spawning stock biomass.

In 2016 (and early 2017), states with interest in the winter flounder FMP conducted the fisheries-independent surveys summarized below.

## **Maine**

The Maine Department of Marine Resources conducts spring and fall bottom trawl surveys in cooperation with the New Hampshire Fish and Game Division. The Maine-New Hampshire (MENH) Inshore Trawl Survey collects length, weight, maturity stage, and age samples for winter flounder. Winter flounder biomass in the spring survey increased in 2014 (>5 kg/tow) but was slightly lower in 2015 and 2016 at 4 kg/tow. Biomass in the fall survey has been fairly steady since 2011 at roughly 3 kg/tow.

## **New Hampshire**

The New Hampshire Fish and Game Department (NHFG) conducts an annual seine survey of juvenile fish in its estuaries from June through November. The survey produces an index of relative abundance for each species encountered using a geometric mean catch per seine haul. The 2016 index value (1.48) increased from 2015 (0.64) and is above the average (1.23) since 1997. In addition, NHFG has worked with Maine Department of Marine Resources (MEDMR) since the fall of 2000 to conduct an inshore trawl survey off of Maine and New Hampshire.

## **Massachusetts**

The Massachusetts Division of Marine Fisheries (MADMF) completed spring and fall bottom trawl surveys covering its state waters. During the 2016 fall trawl survey, winter flounder were present in nearly all of the survey tows in the GOM and the percent occurrence observed was greater than the time series median. The index of exploitable biomass (winter flounder  $\geq 30\text{cm}$ ) for GOM winter flounder increased slightly in 2016. For the SNE stock, winter flounder exhibited a limited distribution during the fall 2016 survey and were only present in approximately 25% of the survey tows, which is well below the time series average for this region. The abundance index declined slightly from 2015 to 2016, while the biomass index was nearly identical over the last two years.

During the spring survey, winter flounder were broadly distributed throughout the GOM region; however, the abundance index declined markedly in 2017, and was slightly below the time series mean. Similarly, a decline in the biomass index was also observed in 2017, with recent biomass levels being slightly below the time series average. Winter flounder exhibited a patchy distribution in the SNE stock and were captured at approximately 80% of the stations in the 2017 survey. Declines in the abundance and biomass indices of winter flounder have been observed in SNE over the past two decades and that trend continued in 2017 as both indices remained at low levels.

DMF completed its annual seine survey for young-of-the-year (YOY) winter flounder in June. This survey has been conducted annually since 1976, and it provides an index of recruitment for the SNE/MA winter flounder stock. The YOY index increased in 2017 and was slightly above the time series median; however, the relatively large confidence intervals around the YOY index suggest that the catch rates were variable across the six estuaries that were sampled.

## **Rhode Island**

Except for the ichthyoplankton survey, which was discontinued in July of 2008, Rhode Island's Division of Fish & Wildlife conducted five studies to monitor juvenile and adult winter flounder in its state waters. The seasonal trawl survey samples 42 fixed and random stations in the spring and fall. The monthly survey samples 13 fixed stations each month. The Narragansett Bay Juvenile Finfish Survey samples 18 stations once a month from June through October. The Coastal Pond Seine Survey samples 24 stations in 8 coastal ponds from May through October. The Coastal Pond Spawning Stock Survey samples 6 stations with fyke nets from January to May in Point Judith.

## **Connecticut**

Winter flounder have been monitored through the Long Island Sound Trawl Survey (LISTS) since 1984. Spring (April, May and June) and Fall surveys (September and October) are conducted each year. The 2016 LISTS spring (April-May) index (geometric mean fish/tow) for all ages of winter flounder was 3.98, the second lowest value in the 33 year time series (lowest value = 3.94 in 2015). Similarly, the 2016 spring index for age-4+ winter flounder was 1.32, the second lowest value in the time series. CT DEEP also conducts a fall estuarine seine survey that provides an index of abundance for young-of-year winter flounder. The geometric mean fish/tow in 2016 was 0.63, the fourth-lowest index value in the 29-year time series.

## **New York**

The NYSDEC has been conducting a small mesh trawl survey targeting juvenile finfish since 1987. The weekly survey runs from May through October in Peconic Bay using a small mesh sixteen foot semi-balloon shrimp trawl. A total of 127 randomly chosen stations were sampled during June and July. The YOY CPUE for winter flounder in 2017 was 0.055, the lowest ever recorded in the survey time series. CPUE for this species continues to be well below the time series average of 9.4.

The Department also conducts a seine survey in western Long Island bays, which has been ongoing since 1986, using a 200 foot  $\frac{1}{4}$  inch mesh seine. Sampling is conducted at multiple stations twice a month within each bay from May through October. On average, 40 tows occur in Jamaica Bay each year during this period, and 24 tows each in Manhasset Bay and Little Neck Bay. The YOY CPUE for Jamaica Bay in 2017 was 8.21, lower than 2016 (12.3). The YOY CPUE for Little Neck Bay in 2017 was 2.33, an increase from 2016's low of 0.22. The YOY CPUE for Manhasset Bay in 2017 was 0.58, the second lowest CPUE in the time series.

## **New Jersey**

The Bureau of Marine Fisheries has conducted an Ocean Trawl program in nearshore ocean waters since 1988. Winter flounder are most abundant in New Jersey during April, and data from this cruise have been used to develop an index of abundance for winter flounder in New Jersey waters. For each tow, information is collected on total number, total weight, and individual lengths. Stratified catch per tow (numbers) in 2017 yielded a time-series low

geometric mean of 0.89, an 80.5% decline from the 2016 mean of 2.25. The biomass indices for 2017 resulted in a geometric mean of 0.45 kg/tow (also a time-series low), a decrease of 54.4% from the 2016 index of 0.98. For the ninth year in a row, these indices remained significantly below the time series means of 5.43 fish and 2.11 kilograms per tow

## **V. Implementation of FMP Compliance Requirements and De Minimis**

### **De Minimis**

Amendment I allows a state to be granted *de minimis* status if their fishery constitutes less than 1% of the coastwide commercial or recreational landings for the preceding three years for which data are available. A state that qualifies for *de minimis* status based on their commercial landings will qualify for exemptions in the commercial fishery only, and a state that qualifies for *de minimis* based on their recreational landings will qualify for exemptions in their recreational fishery only. States that apply for and are granted *de minimis* status are exempted from biological monitoring/sub-sampling activities for the sector for which *de minimis* has been granted.

### ***Request for De minimis Status***

There were no requests for de minimis status in the winter flounder fishery.

### **State Compliance**

All of the states with a declared interest in the management of winter flounder have implemented commercial and recreational regulations that are consistent with ASMFC's Winter Flounder FMP (Tables 4 and 5).

## **VI. Research and Monitoring Recommendations**

The 2017 Operational Stock Assessments noted several data needs that would improve future population estimates.

### **Gulf of Maine**

- Additional studies on federal and state survey gear efficiency and catchability
- Quantifying the degree of herding between the doors and escapement under the footrope and/or above the headrope
- Studies quantifying winter flounder abundance and distribution among habitat types

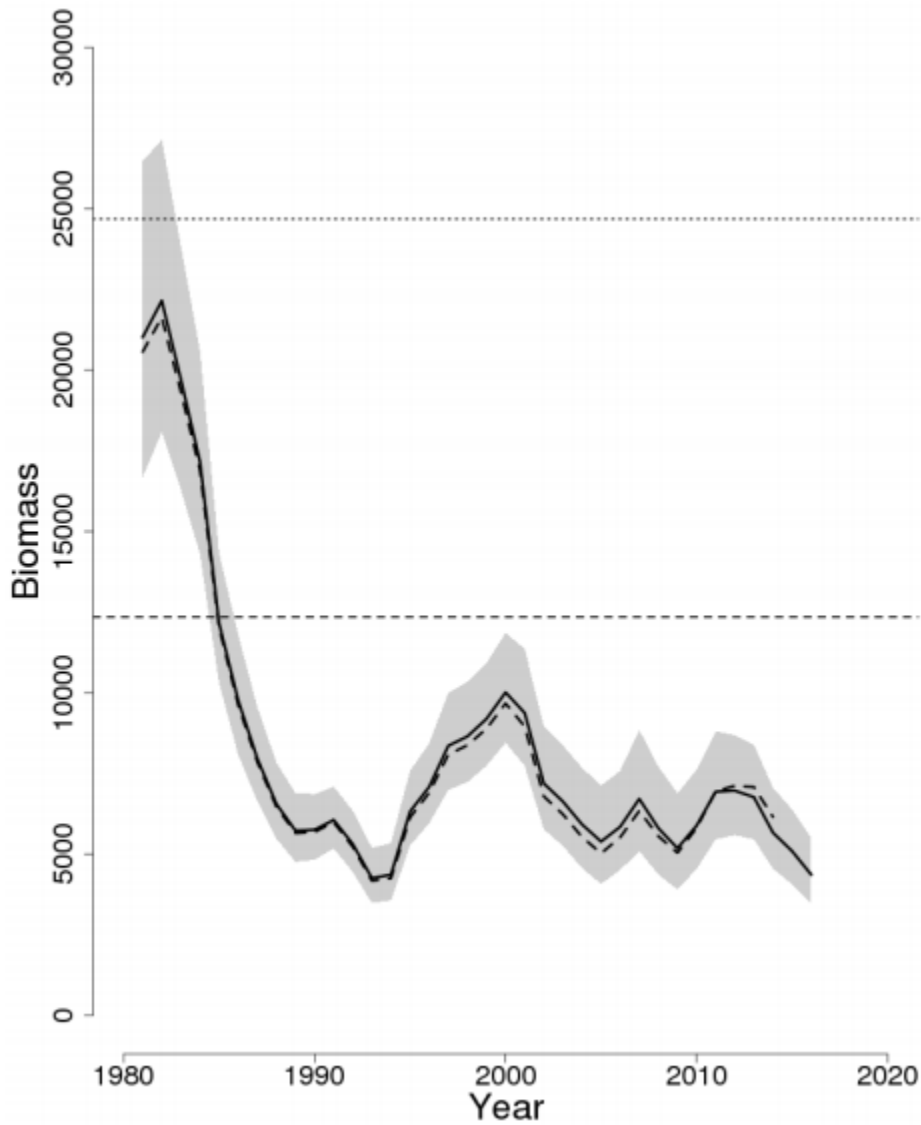
### **Southern New England - Mid-Atlantic**

- Additional studies on maximum age
- Additional studies on recreational discard lengths
- Investigation of localized structure/genetics of the stock

## VII. References

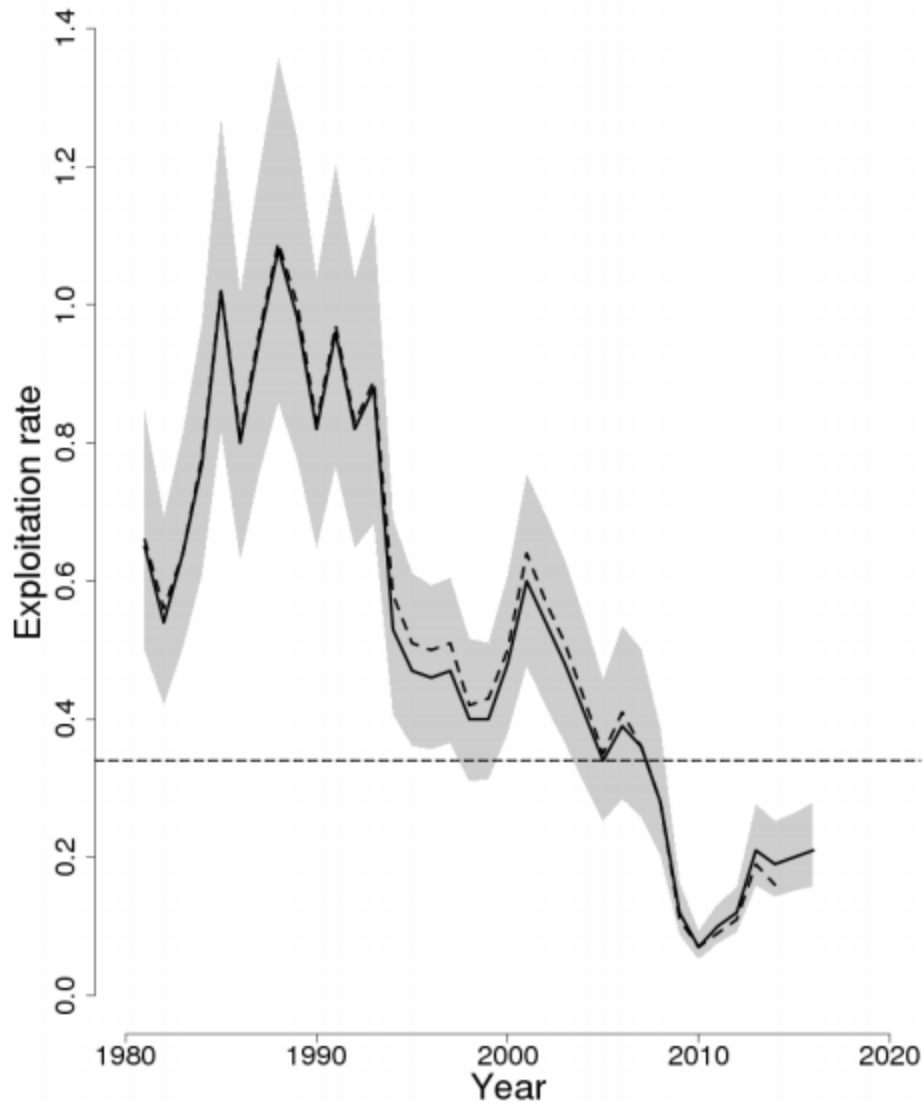
- National Oceanic and Atmospheric Administration. Commercial Fisheries Statistics Tool.  
Access: <http://www.st.nmfs.noaa.gov/commercial-fisheries/commercial-landings/annual-landings/index>
- National Oceanic and Atmospheric Administration. Marine Recreational Fisheries Program: Recreational Fisheries Statistics Tool.  
Access: <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/index>
- Northeast Fisheries Science Center. 2017. Northeast Multispecies Fishery Final Year-End Results for Fishing Year 2016.  
Available online  
at [https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/Sector\\_Monitoring/FY16\\_Mults\\_Catch\\_Estimates.pdf](https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/Sector_Monitoring/FY16_Mults_Catch_Estimates.pdf)
- Northeast Fisheries Science Center. 2017. Operational Assessment of 19 Northeast Groundfish Stocks, Updated through 2016, Northeast Fisheries Science Center, Woods Hole, Massachusetts. US Department of Commerce, NOAA Fisheries, Northeast Fish Science Center Ref. Doc. 17-17; 259 p.  
Available online at <https://www.nefsc.noaa.gov/groundfish/operational-assessments-2017/>

VIII. Figures and Tables

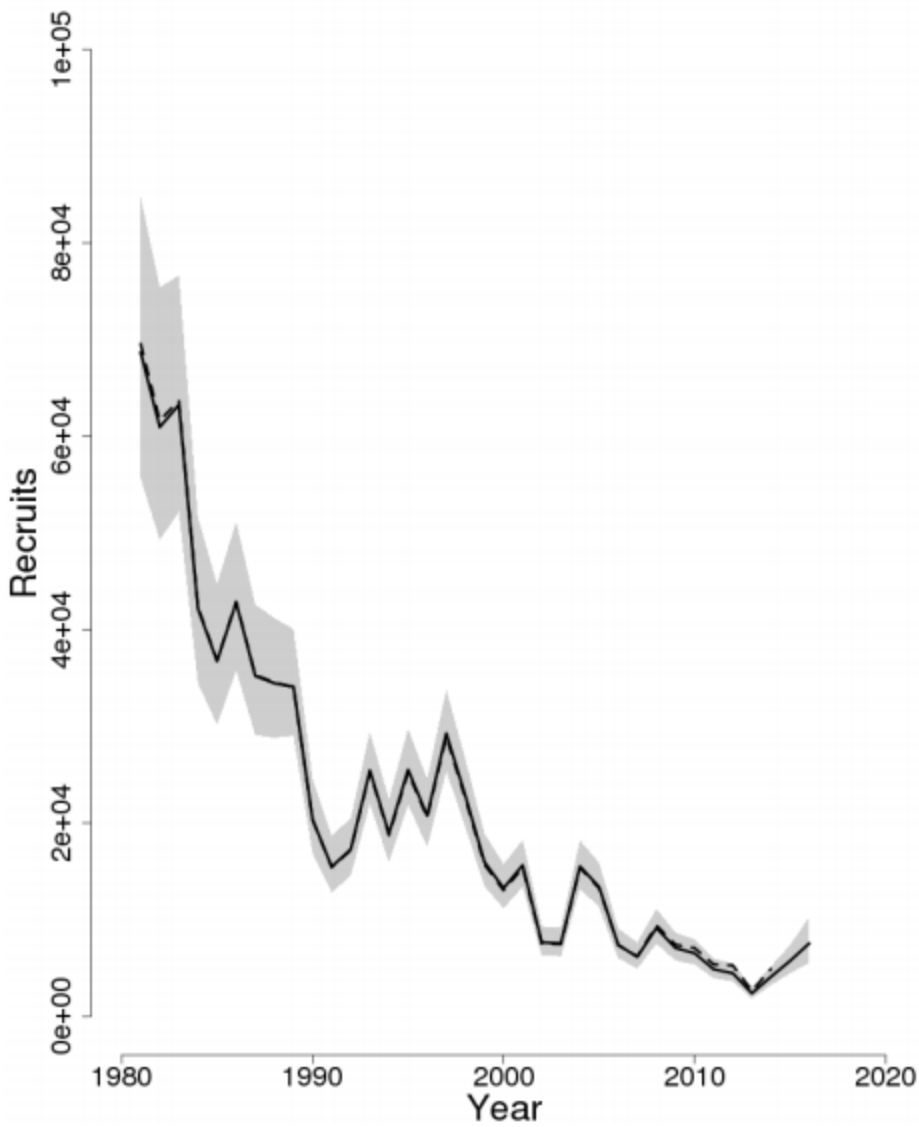


**Figure 1.** Southern New England/ Mid-Atlantic winter flounder spawning stock biomass between 1981 and 2016. The solid line represents results of the current assessment and the dotted line represents results from the previous assessment. The horizontal dotted line is the SSB-target and the horizontal dashed line is the SSB-threshold based on the 2017 assessment. The 90% confidence intervals are shown in grey. (Source: Groundfish Operational Assessments 2017)

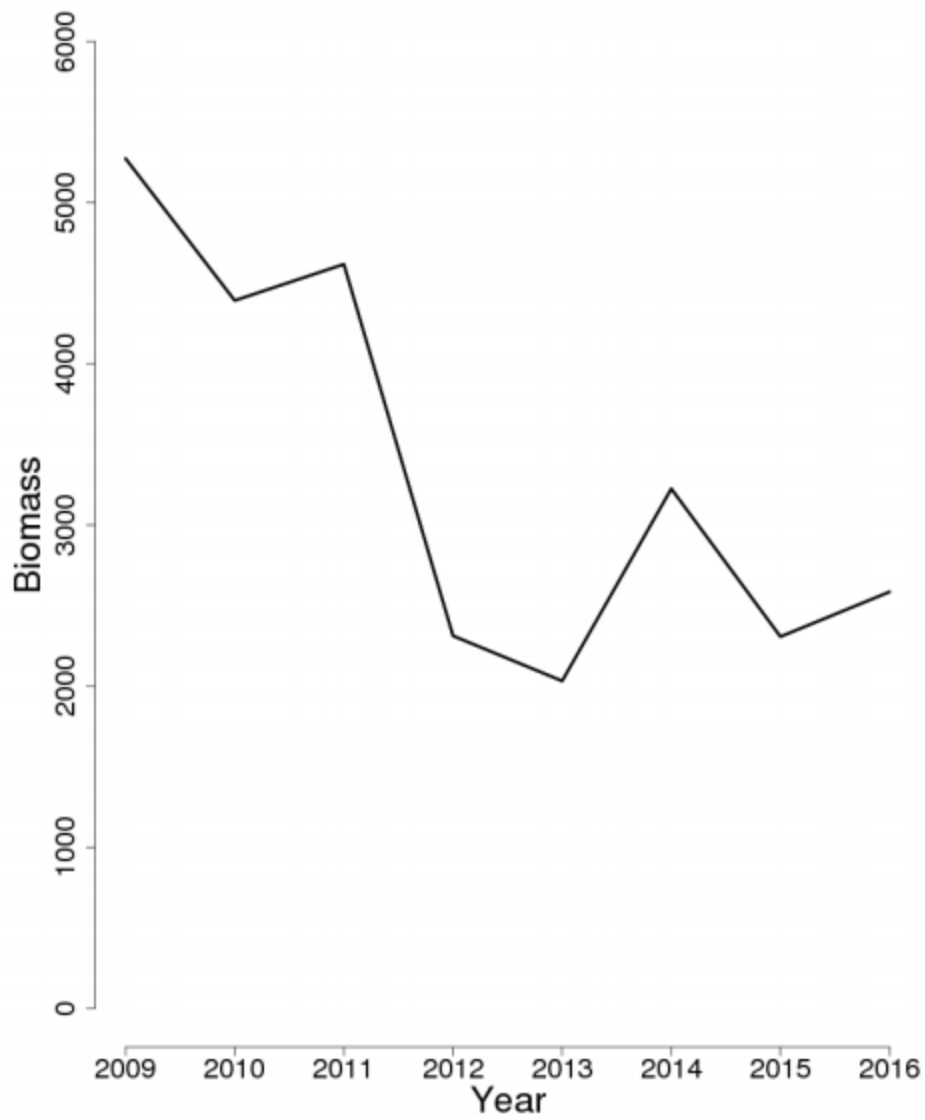




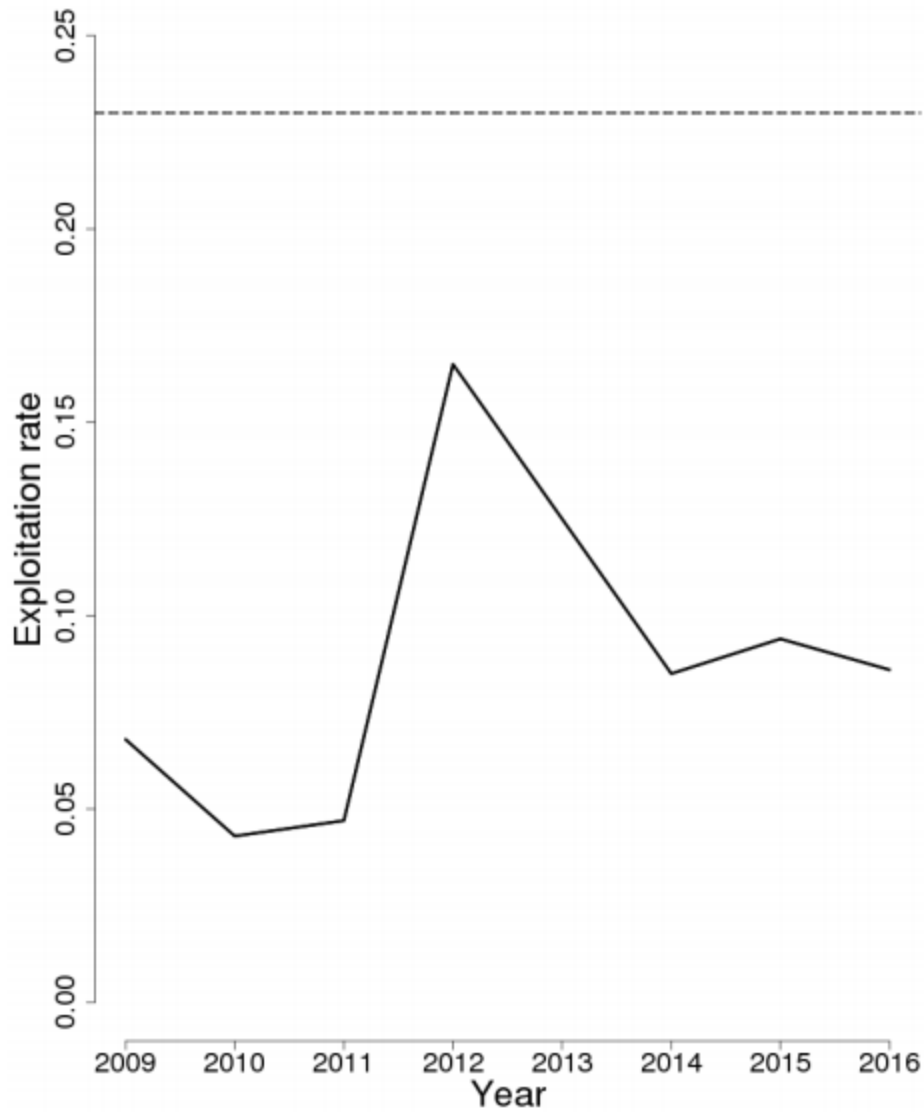
**Figure 2.** Southern New England/Mid-Atlantic winter flounder fishing mortality between 1981 and 2016. The solid line represents results of the current assessment and the dotted line represents results from the previous assessment. The horizontal dashed line is the F-threshold based on the 2017 assessment. The 90% confidence intervals are shown in grey. (Source: Groundfish Operational Assessments 2017)



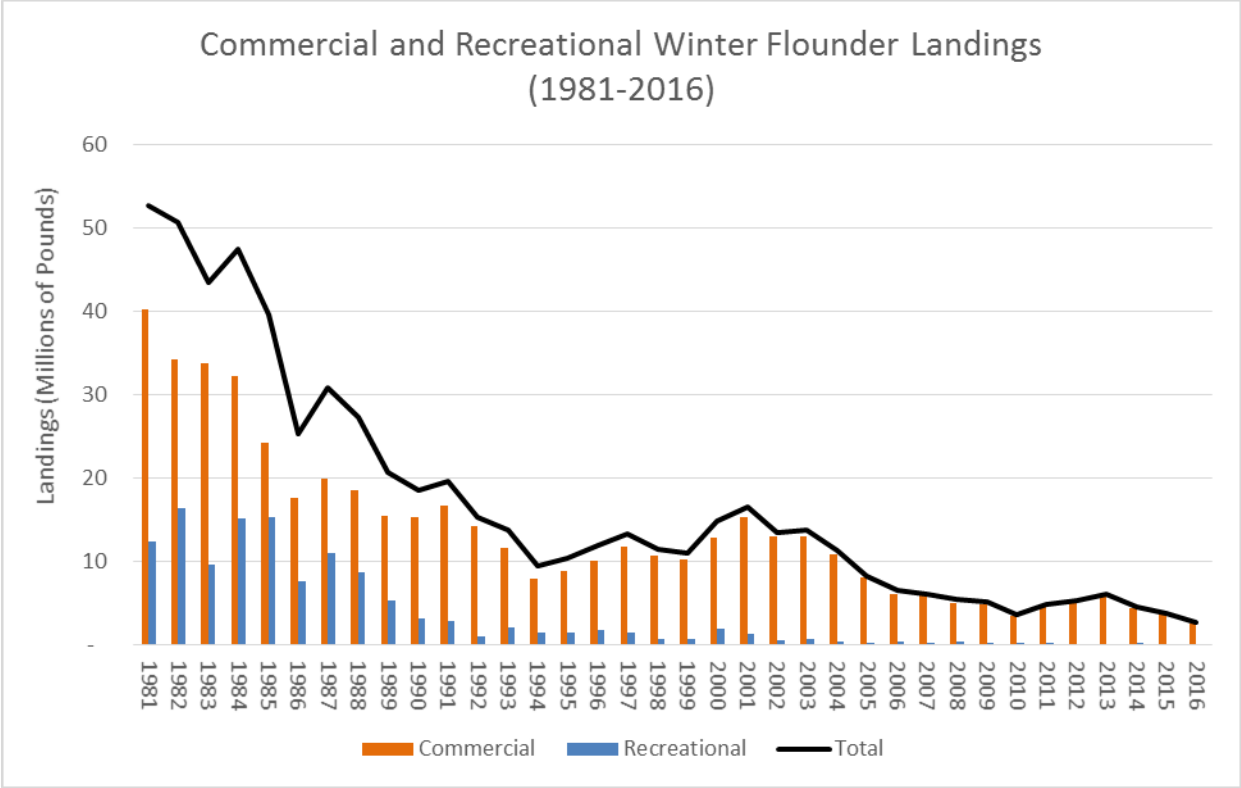
**Figure 3.** Southern New England/ Mid-Atlantic winter flounder trends in recruits between 1981 and 2016. The solid line represents results of the current assessment and the dotted line represents results from the previous assessment. The 90% confidence intervals are shown in grey. (Source: Groundfish Operational Assessments 2017)



**Figure 4.** Gulf of Maine winter flounder spawning stock biomass between 2009 and 2016. Trends are based on 30+ cm area-swept biomass from the fall MENH, MDMF, and NEFSC surveys. (Source: Groundfish Operational Assessments 2017)



**Figure 5.** Gulf of Maine winter flounder exploitation rate between 2009 and 2016. The dashed line represents the corresponding F-Threshold from the 2017 assessment. (Source: Groundfish Operational Assessments 2017)



**Figure 6.** Total landings of winter flounder, commercial and recreational landings. (Source: NOAA and MRIP)

**Table 1. Coastwide commercial and recreational landings of winter flounder.**

Source: NMFS, MRIP.

<b>Year</b>	<b>Commercial Landings (lbs)</b>	<b>Recreational Landings (lbs)</b>	<b>Total Harvest (lbs)</b>
1981	40,328,004	12,424,306	52,752,310
1982	34,299,800	16,417,409	50,717,209
1983	33,817,000	9,640,481	43,457,481
1984	32,310,416	15,156,822	47,467,238
1985	24,222,895	15,372,730	39,595,625
1986	17,643,994	7,634,912	25,278,906
1987	19,926,128	10,967,183	30,893,311
1988	18,593,695	8,779,904	27,373,599
1989	15,421,400	5,363,355	20,784,755
1990	15,385,073	3,156,378	18,541,451
1991	16,776,460	2,899,482	19,675,942
1992	14,245,420	1,071,535	15,316,955
1993	11,648,778	2,129,667	13,778,445
1994	7,944,331	1,496,956	9,441,287
1995	8,882,929	1,529,595	10,412,524
1996	10,129,515	1,757,069	11,886,584
1997	11,777,821	1,514,640	13,292,461
1998	10,762,583	717,765	11,480,348
1999	10,222,856	768,056	10,990,912
2000	12,880,614	2,020,880	14,901,494
2001	15,278,708	1,304,052	16,582,760
2002	12,955,714	583,547	13,539,261
2003	12,986,593	773,793	13,760,386
2004	10,833,480	451,387	11,284,867
2005	8,084,062	233,717	8,317,779
2006	6,050,949	464,499	6,515,448
2007	5,879,052	205,645	6,084,697
2008	5,095,612	366,261	5,461,873
2009	4,870,667	285,613	5,156,280
2010	3,498,442	195,333	3,693,775
2011	4,682,379	209,318	4,891,697
2012	5,280,066	107,987	5,388,053
2013	6,050,669	74,291	6,124,960
2014	4,365,086	187,292	4,552,378
2015	3,749,153	88,223	3,837,376
2016	2,561,018	107,458	2,668,476

**Table 2. Winter flounder commercial landings by state from 2013-2016. "C" denotes confidential landings.**

State	2013	2014	2015	2016
	Pounds	Pounds	Pounds	Pounds
Massachusetts	5,376,720	3,818,405	3,198,835	2,057,335
Rhode Island	407,272	461,905	369,168	299,895
New York	99,606	57,410	131,105	107,860
New Jersey	46,760	10,984	4,349	3,669
Connecticut	103,847	15,039	40,672	85,982
New Hampshire	C	C	C	C
Delaware	C	C	C	C
Maine	C	C	C	C

**Table 3. Recreational total catch (A + B1 + B2) by weight (lbs) by state 2013-2016. (Source: MRIP)**

	2013		2014		2015		2016	
	lbs	%	lbs	%	lbs	%	lbs	%
Massachusetts	64,733	87.1	115,380	61.6	55,889	63.3	45,028	41.9
New Jersey	7944	10.7	23,398	12.5	582	0.7	16,638	15.5
New York	1614	2.2	41,618	22.2	8,828	10.0	36,694	34.1
Connecticut	0	0.0	1,468	0.8	19,319	21.9	41	0.0
New Hampshire	0	0.0	4,797	2.6	3,539	4.0	8,224	7.7
Rhode Island	0	0.0	631	0.3	65	0.1	833	0.8
Maine	0		0	0.0	41	0.0	0	0.0
<b>Total</b>	74,291		187,292		88,263		107,458	

**Table 4. Commercial winter flounder regulations.**

<b>State</b>	<b>Stock Unit</b>	<b>Size Limit</b>	<b>Trip Limit</b>	<b>Seasonal Closure (dates inclusive)</b>	<b>Recruitment Assessment</b>	<b>SSB Assessment</b>	<b>Min. Mesh Size</b>	<b><i>De minimis Request</i></b>
<b>Maine</b>	GOM	12"	500 lbs	May 1 – June 30	N/A	N/A	6.5"	No
<b>New Hampshire</b>	GOM	12"	500 lbs	April 1 – June 30	N/A	N/A	6.5"	No
<b>Massachusetts</b>	GOM	12"	500 lbs	Open all year	YOY Seine Survey (June)	Bottom Trawl Survey (May, Sept)	6.5"	No
	SNE/MA	12"	50 lbs	Open all year	YOY Seine Survey (June)	Bottom Trawl Survey (May, Sept)	6.5"	No
<b>Rhode Island</b>	SNE/MA	12"	50 lbs	Open all year	Narragansett Bay Juvenile Finfish Survey	Trawl Surveys	6.5"	No
<b>Connecticut</b>	SNE/MA	12"	50 lbs or 38 fish	March 1 – April 14	N/A	Long Island Sound Trawl Survey	6.5"	No
<b>New York</b>	SNE/MA	12"	50 lbs	June 14 – Nov 30 (for all gear besides fyke nets, pound and trap nets)	Small Mesh Trawl Survey, Seine Survey	N/A	6.5"	No
<b>New Jersey</b>	SNE/MA	12"	38 fish	June 1 – Nov 30. Fyke net closed Feb 20 – Oct 31	N/A	Ocean Trawl Survey	6.5"	No



**Table 5. Recreational winter flounder regulations.**

<b>State</b>	<b>Stock Unit</b>	<b>Creel Limit</b>	<b>Size Limit</b>	<b>Seasonal Closure (dates inclusive)</b>
<b>Maine</b>	GOM	8	12"	October 1 – June 30
<b>New Hampshire</b>	GOM	8	12"	May 15 – May 24
<b>Massachusetts</b>	GOM	8	12"	Open all year
	SNE/MA	2	12"	January 1- February 28
<b>Rhode Island</b>	SNE/MA	2	12"	January 1 – February 28
<b>Connecticut</b>	SNE/MA	2	12"	January 1 – March 31
<b>New York</b>	SNE/MA	2	12"	May 31 – March 31
<b>New Jersey</b>	SNE/MA	2	12"	January 1 – February 28



# Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201  
703.842.0740 • 703.842.0741 (fax) • [www.asmfc.org](http://www.asmfc.org)

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## MEMORANDUM

January 11, 2018

**To: Winter Flounder Management Board**  
**From: Tina Berger, Director of Communications**  
**RE: Request for Review of Current Advisory Panel Membership; Call for New Nominations**

In recent years, the Winter Flounder Advisory Panel has been largely inactive (last meeting was held in 2014) and poorly attended when it did meet. As a result, staff requests that you please review the following Advisory Panel list and consider replacing members who are inactive. This will ensure that, if necessary, the group will be ready to meet and have effective discussions. The list also includes a brief summary of member participation. Following is a link to the AP nomination form –

<http://www.asmfc.org/files/Meetings/2017WinterMeeting/APNomination.pdf>. Thank you.

If you have any questions, please feel free to contact me at (703) 842-0749 or [tberger@asmfc.org](mailto:tberger@asmfc.org).

Enc.

cc: Megan Ware

M18-5

# WINTER FLOUNDER ADVISORY PANEL

January 18, 2018

## Maine

### **Chair - Harold Brown (rec) (4/96)**

Eco Analysis Inc.  
P.O. Box 224  
Bath, ME 04530  
Phone: 207.837.2442  
[raptor@zwi.net](mailto:raptor@zwi.net)

Appt. Confirmed 4/24/95  
Appt. Reconfirmed 3/11/03  
Appt Reconfirmed 3/07

**Participation: Active**

Gary Libby  
PO BOX 91  
Port Clyde ME 04855-0091  
Phone: 207.542.9557  
[portclydecowboy@gmail.com](mailto:portclydecowboy@gmail.com)

Appt. Confirmed 5/09  
**Participation: Inactive; Last meeting attended was in 2012**

## New Hampshire

Donald L. Swanson (rec)  
84 Franklin Street  
Derry, NH 03038-1914  
Phone: 603.434.4593  
Email: [salty4fly2@comcast.com](mailto:salty4fly2@comcast.com)

Appt. Confirmed 2/3/09  
**Participation: Active; attended last meeting in 2014**

David Goethel (comm.)  
23 Ridgeview Terrace  
Hampton, NH 03842  
Phone: 603.926.2165  
Email: [egoethel@comcast.net](mailto:egoethel@comcast.net)  
Appt. Confirmed 10/27/14  
**Participation: N/A; meeting has not been held since his appt**

## Massachusetts

Louis M. MacKeil, Jr. (rec)  
PO Box 702  
West Hyannisport, MA 02672  
Phone: 508.349.9317  
[Macfish2@yahoo.com](mailto:Macfish2@yahoo.com)

Appt. Confirmed 4/24/95  
Appt. Reconfirmed 6/9/03  
Appt Reconfirmed 6/07

**Participation: Inactive; Never attended a meeting since appt in 1995**

## Vacancy (rec)

## Rhode Island

George S. Allen (rec)  
444 Black Point Lane  
Portsmouth, RI 02871  
Phone: 401.849.4896  
[gsallen3@verizon.net](mailto:gsallen3@verizon.net)

Appt. Confirmed 6/9/03  
Appt. Reconfirmed 2/9/06  
Appt Reconfirmed 5/10

**Participation: Inactive; Never attended a meeting since appt in 2003**

## Vacancy (commercial)

## Connecticut

Robert Cobb (comm)  
40 Ridge Drive  
Old Saybrook, CT 06475  
Phone: 860.388.2579  
Appt. Confirmed 4/24/95  
Appt. Reconfirmed 6/9/03  
Appt Reconfirmed 6/07

**Participation: Inactive; Never attended a meeting since appt in 1995**

Art DeFrancisco (rec)  
89 Avon Street  
Stratford, CT 06615-6703  
Phone: 203.922.650.1745  
Email: [adefra3228@yahoo.com](mailto:adefra3228@yahoo.com)

Appt. Confirmed 6/9/03  
Appt Reconfirmed 6/07  
Reconfirmed 3/2014

**Participation: Active; attended last meeting in 2014**

## WINTER FLOUNDER ADVISORY PANEL

January 18, 2018

### New York

Charles Witek (rec)  
1075 Tooker Avenue  
West Babylon, NY 11704  
Phone (office): 212.412.6707  
Phone (home): 631.587.2211  
[charleswitek@gmail.com](mailto:charleswitek@gmail.com)

Appt. Confirmed 8/5/98  
Appt. Reconfirmed 5/30/03  
Appt. Reconfirmed 5/07

**Participation: Attended last meeting in 2014**

Ken Mades (comm)  
14 Carter Road  
Hampton Bays, NY 11946  
Phone: 516.728.4792  
Appt. Confirmed 10/17/94  
Appt. Reconfirmed 5/30/03  
Appt. Reconfirmed 5/07

**Participation: Inactive; Never attended a meeting since appt in 1994**

### New Jersey

James R. Lovgren (comm)  
17 Laurelhurst Drive  
Brick, NJ 08724  
Phone: 732.899.1872  
[Jlovgren3@gmail.com](mailto:Jlovgren3@gmail.com)

Appt. Confirmed 4/24/95  
Appt. Reconfirmed 6/9/03  
Appt Reconfirmed 6/07

**Participation: Inactive; Never attended a meeting since appt in 1995**

Thomas Siciliano (rec)  
6 Nautic Way  
Little Egg Harbor Township, NJ 08087-1688  
Phone (day): 732.267.6451  
Phone (eve): 609.296.3774  
Email: [TomS6363@comcast.net](mailto:TomS6363@comcast.net)

Appt Confirmed 5/4/09  
Appt Reconfirmed 3/2014

**Participation: Inactive; Never attended a meeting since appt in 2009**

# Atlantic States Marine Fisheries Commission

## American Eel Management Board

*February 6, 2018*

*4:30 – 6:00 p.m.*

*Arlington, Virginia*

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*M. Gary*) 4:30 p.m.
2. Board Consent 4:30 p.m.
  - Approval of Agenda
  - Approval of Proceedings from October 2017
3. Public Comment 4:35 p.m.
4. Consider Approval of Draft Addendum V for Public Comment **Action** 4:45 p.m.
  - Presentation of Management Options (*K. Rootes-Murdy*)
  - Stock Assessment Subcommittee Report (*K. Anstead*)
5. Approval of 2017 FMP Review and State Compliance Reports (*K. Rootes-Murdy*) **Action** 5:45 p.m.
6. Advisory Panel Report (*K. Rootes-Murdy*) 5:50 p.m.
7. Elect Vice-chair (*M. Gary*) **Action** 5:55 p.m.
8. Other Business/Adjourn 6:00 p.m.

The meeting will be held at the Westin Crystal City, 1800 Jefferson Davis Highway Arlington, Virginia; 703.486.1111

# ***Atlantic States Marine Fisheries Commission***

## **MEETING OVERVIEW**

### **American Eel Management Board Meeting**

**February 6, 2018**

**4:30 – 6:00 p.m.**

**Arlington, Virginia**

Chair: Marty Gary Assumed Chairmanship: 10/17	Technical Committee Chair: Tim Wildman (CT)	Law Enforcement Committee Representative: Cornish
Vice Chair: VACANT	Advisory Panel Chair: Mari-Beth Delucia	Previous Board Meeting: August 2, 2017

**Voting Members:** ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, VA, NC, SC, GA, FL, D.C., PRFC, USFWS, NMFS (19 votes)

#### **2. Board Consent:**

- Approval of Agenda
- Approval of Proceedings from August 2017 Board Meeting

#### **3. Public Comment:**

At the beginning of the meeting, public comment will be taken on items not on the Agenda. Individuals that wish to speak at this time must sign-up at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Board Chair will not allow additional public comment. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

<b>4. Consider Approval of Draft Addendum V for Public Comment (4:45 – 5:45 p.m.) Action</b>
<b>Background</b> <ul style="list-style-type: none"><li>• At the Annual Meeting, the Board moved to initiate a draft addendum to consider the following alternatives for yellow eel fishery: the current coastwide cap, management triggers, state by state allocations; and for glass eel fishery: Maine’s annual quota.</li><li>• An Allocation Working Group met via conference call from November through January to draft the Addendum.</li></ul>
<b>Presentation</b> <ul style="list-style-type: none"><li>• Overview of draft Addendum V for Board Review by K. Rootes-Murdy (<b>Supplemental Materials</b>)</li></ul>
<b>Board Actions for Consideration</b> <ul style="list-style-type: none"><li>• Approve draft Addendum V for public comment.</li></ul>

**5. Approval of 2017 FMP Review and State Compliance (5:45 – 5:50 p.m.) Action**

**Background**

- State compliance reports were due on September 1.
- The PRT reviewed and compiled the annual FMP Review (**Supplemental Materials**)
- New Hampshire, Massachusetts, Pennsylvania, South Carolina, Georgia, Florida requested and meet the requirements for *de minimis* for yellow eel
- South Carolina requested but did not meet the requirements for *de minimis* for glass eel

**Presentation**

- Overview of the 2017 Fishery Management Plan Review by K. Rootes-Murdy

**Board Actions for Consideration**

- Accept the 2017 FMP Review and approve *de minimis* request

**6. Advisory Panel Report (5:50-5:55 p.m.)**

**Background**

- The Advisory Panel met via conference call in December to receive an overview of the 2017 stock assessment update, recent Technical Committee work, and management actions in 2017 (**Briefing Materials**)

**Presentation**

- Advisory Panel Report by K. Rootes-Murdy

**7. Elect Vice Chair**

**8. Other Business/ Adjourn**

## American Eel

**Activity level: Low**

**Committee Overlap Score:** Medium (SAS overlaps with BERP, Atlantic herring, horseshoe crab)

### Committee Task List

- January 2018: Ageing workshop for state ageing labs
- SAS- January 2018: Respond to questions posed by Allocation WG regarding impact to the resource if Coastwide Cap is exceeded. Present response at February Meeting
- June/July 2018: Annual review of any aquaculture proposals that are submitted

**TC Members:** Tim Wildman (CT, TC Chair), Ryan Harrell (GA), Kimberly Bonvechio (FL), Bradford Chase (MA), Ellen Cosby (PRFC), Sean Doyle (DC), Robert Eckert (NH), Sheila Eyler (USFWS), Alex Haro (USGS), Carol Hoffman (NY), Michael Kaufmann (PA), Wilson Laney (USFWS), Todd Mathes (NC), Patrick McGee (RI), Jennifer Pyle (NJ), Troy Tuckey (VIMS), Andrew Watson (SC), Keith Whiteford (MD), Gail Wippelhauser (ME), Jordan Zimmerman (DE), Kristen Anstead (ASMFC), Kirby Rootes-Murdy (ASMFC)

**SAS Members:** Greg Hinks (NJ), Bradford Chase (MA), Matt Cieri (ME), Sheila Eyler (USFWS), Laura Lee (NC), John Sweka (USFWS), Troy Tuckey (VIMS), Keith Whiteford (MD), Kristen Anstead (ASMFC), Kirby Rootes-Murdy (ASMFC)



**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
AMERICAN EEL MANAGEMENT BOARD**

**The Marriott Norfolk Waterside  
Norfolk, Virginia  
October 17, 2017**

These minutes are draft and subject to approval by the American Eel Management Board.  
The Board will review the minutes during its next meeting.

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Adjournment..... 25

**INDEX OF MOTIONS**

1. **Approval of Agenda by Consent** (Page 1).
2. **Approval of Proceedings of August, 2017** by Consent (Page 1).
3. **Move to maintain Maine's glass eel quota for 2018 at status quo level from 2015-2017 (9,688 pounds)** (Page 17). Motion by Cheri Patterson; second by Pat Keliher. Motion carried (Page 18).
4. **Move to initiate an addendum to consider alternative allocations, management triggers, and coastwide caps relative to the current management program for both the yellow and glass eel commercial fisheries starting in the 2019 fishing** (Page 22). Motion by Lynn Fegley; second by Martin Gary. Motion carried (Page 22).
5. **Move to adjourn** by consent (Page 25).

**ATTENDANCE**

**Board Members**

Pat Keliher, ME (AA)	John Clark, DE, proxy for D. Saveikis (AA)
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**Ex-Officio Members**

Jeff Brust, Chair, Stock Assessment Subcommittee

**Staff**

Bob Beal  
Toni Kerns

Kirby Rootes-Murdy  
Kristen Anstead

**Guests**

**NOTE: Sign-in Sheet Not Distributed**

Jeff Brust, NJ DFW  
Mitch Feigenbaum, Delaware Valley Fish Co.

Jeffrey Pierce, MEFA  
Sara Rademaker, American Unagi, LLC

The American Eel Management Board of the Atlantic States Marine Fisheries Commission convened in the Hampton Roads Ballroom V of the Marriott Waterside Hotel, Norfolk, Virginia, October 17, 2017, and was called to order at 2:32 o'clock p.m. by Chairman John Clark.

#### **CALL TO ORDER**

CHAIRMAN JOHN CLARK: Welcome to the American Eel Board. Will Commissioner's please come to the table, audience please be seated, and those that are in conversation please take it outside. Thank you.

#### **APPROVAL OF AGENDA**

CHAIRMAN CLARK: Our first item is to approve the agenda. Are there any changes to the agenda? Seeing none; are there any objections to the agenda as it stands? Seeing none; the agenda is passed.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN CLARK: Everybody has had a chance to see the proceedings from the August, 2017 meeting. Are there any edits or changes to the proceedings? Seeing none; are there any objections to approving the proceedings as submitted? Seeing none; that is Item number two.

#### **PUBLIC COMMENT**

CHAIRMAN CLARK: For item number three, Public Comment, we have three people who have signed up for public comment. We're going to start with Mitch Feigenbaum.

MR. MITCHELL FEIGENBAUM: Congratulations to ASMFC and the Eel Board on the occasion of the Commission's 76th Annual Meeting. Thank you, Chairman Clark for the opportunity to offer some comments today. My name is Mitchell Feigenbaum. I'm a member of the Eel Advisory Panel; and the Principal of Delaware Valley Fish Company, an eel exporter near Philadelphia.

I am involved with other ventures, including Nova Eel; a research and development company in Canada. Nova Eel is based in Halifax, Nova Scotia. Almost all of its shareholders are glass eel quota holders in Maine and Canada. I am here to report on its efforts. We are a professionally managed company focused on one goal; to transfer North America's 25 million dollar glass eel fishery into a world class aquaculture and fish processing industry worth \$250 million dollars.

Presently glass eel harvesters ship their eels alive to Asia, for Chinese farmers to use as seed material for their vast eel farming industry. They add ten times worth of value, turning our raw goods into a final product. We want to make as much as possible of that finished product right here in North America.

The eel farming industry we envision would create hundreds of jobs. We began investigating this effort in 2004; around the time the Fish and Wildlife Service began the first of its two ESA assessments. Since 2014, we have invested 1.5 million dollars in supporting work, a series of internally run experiments at Dalhousie University in Halifax.

These efforts established the safety and effectiveness of a medicated fish feed; which dramatically increases the speed and size of growth in aquaculture. Our internal work enabled the U.S. Food and Drug Administration to open up the file for an investigative new animal drug earlier this year. Our pharmaceutical grade medicated feed is presently being manufactured. After next year's glass eel harvest we expect to commence our pivotal studies; experiments at independent certified labs, necessary to obtain drug approval from both the U.S. and Canada governments.

We hope to be farming eels with our approved product on a pilot scale in 2019; and to open up one or more commercial eel facilities in 2020 or

2021. Our commercial plans are naturally focused in those areas where glass eel fishing already takes place; but we are prepared to make our proprietary eel feed and farming methods available beyond Canada and Maine.

We've identified eel science and aquaculture colleagues at universities in several ASMFC states, who are enthusiastic to be part of the effort. It appears likely this Board is about to embark on Addendum V in the near future. Addendum IV includes an aquaculture provision; allowing states to grant 200 pounds of glass eel quota for use in a domestic facility.

Addendum V will give the Board a chance to take another look at this provision. My colleagues and I hope that the Board will consider a mechanism for states to join together, pool obligations, and share resources in connection with the aquaculture quota. At some point every state will likely cast a vote on aquaculture issues.

We hope each state will study its opportunities as well. Nova Eel welcomes suggestions, ideas, and proposals from all stakeholders, and will advance some of its own. At a minimum, we hope the Commission will allow the state of Maine a reasonable degree of flexibility to pursue its goals in the area of eel quotas for both commercial fisheries and aquaculture.

The Maine DMR has worked hard to earn this deference. We look forward to working with the PDT, TC, and Eel Board on this important matter. On the question of yellow eel quotas, the Fish and Wildlife Service has twice told us that the eel population may be at the low end of its historic range, but is not endangered.

It has been stable and pleasant over most of its historical range for more than a full generation; since the collapse of Great Lakes stocks was first observed. Our adult eel harvest is locked down at the low end of its long term range. We question the landings numbers, but we don't

disagree that the stock is low. ASMFCs next stock assessment seems likely to find that the species remains depleted.

Industry looks forward to reviewing the stock assessment; and will share with the Technical Committee, peer reviewers and Eel Board any relevant information that may be overlooked during the assessment process. We are particularly concerned that the glass eel recruitment indices are not being accorded proper weight. Again, I commend the ASMFC for reaching its 76th Anniversary. Thank you, Commissioners for your attention and staffs and committees for all your hard work.

CHAIRMAN CLARK: Thank you, Mitch. I think you will be available if anybody has questions for you later. Next up we have Sara Rademaker of American Unagi; to discuss eel aquaculture in Maine.

MS. SARA RADEMAKER: My name is Sara Rademaker; and I've been growing eels up in Maine for the past three years. I started a company called American Unagi; that's been focused on taking Maine harvested glass eels, and growing them out for the domestic seafood industry. I'm here today just to introduce myself, let you know about the work that I've been doing, and also our intention to request an aquaculture quota for 2019.

My background is in aquaculture. I've been in the industry for over 15 years; and that has included education facility management and industry development, both internationally and domestically. I came back to Maine to start an aquaculture business; and when I saw what was happening with the glass eels being shipped abroad and then importing a questionable product back in.

I really saw an opportunity to produce a better product for the U.S.; but also to provide value and jobs in the state of Maine, so 2014 I dug in, and wanted to validate this idea. I started with

a couple of tanks in my basement; and then the following year built a pilot facility at the Darling Marine Center, and in 2016 put the first eels into the U.S. market.

We've gotten really great feedback, and we've had a lot of support from the Maine community, and also groups like Maine Aquaculture Innovation Center, Maine Technology Institute, USDA, Maine Sea-Grant that have all helped the progress of this company. I've also had the opportunity to get a talented group together of advisors from the fisheries, seafood, and aquaculture industry to help this business progress.

I'm really excited about it, and the last three years have been super successful. We're looking to get out of the pilot facility and into a commercial facility. Part of that success of launching that facility is going to be having a secure source of glass eels. We've been from the very beginning, having a very open dialogue with the Department of Marine Resources.

Recently we've been discussing this opportunity to do the aquaculture allocation for 2019. I just wanted to share with you some of the work that we're doing that we're really excited about this opportunity, and have really worked hard the last couple of years to show that this can be a valid business and a valid industry for the U.S. I look forward to working with all of you in the future, and thanks for your time.

CHAIRMAN CLARK: Thank you, Sara. Next up we have Jeff Pierce of the Maine Elvers Association.

MR. JEFFREY PIERCE: Good afternoon, Chairman Clark, distinguished members of the American Eel Board. My name is Jeff Pierce; I'm here on behalf of the Maine Elver Fishermen's Association, and thank you for allowing me public comment.

In the August 2 meeting, I submitted a letter for public comment about the good work the state of Maine Department of Marine Resource and the Maine Elver Fishermen have done to stop poaching; such as implementing swipe card systems and many other positive things that have dramatically improved this fishery. I will not repeat them at this time.

In 2012, Maine glass eel catch was 18,000 plus pounds, 2013, Maine glass eel catch was 20,000 plus pounds, 2014, and Maine was put on an allocation quota of 11,749 pounds; about a 46 percent cut from the 2013. In 2015, Maine was cut again to 9,688 pounds for a three year period of allocated quota. The three year period is up, and we would hope that this Board would return Maine's quota to the 2014 level of 11,749 pounds for the 2018 season. We the Maine Elver Fishermen appreciate your considerations on increasing this year's quota.

There is also a question of a new addendum on this agenda. We look forward to participating in this process; and hope that aquaculture is part of this conversation, perhaps as part of conservation credit. We look forward to exploring these options. Thank you.

CHAIRMAN CLARK: Thank you, Jeff. That concludes our public comments.

#### **2017 AMERICAN EEL STOCK ASSESSMENT UPDATE**

CHAIRMAN CLARK: We will now move on to Item 4, which is the 2017 American Eel Stock Assessment Update, and Jeff Brust will be presenting the assessment update. Take it away, Jeff.

MR. JEFF BRUST: Good afternoon to members of the Board. Yes, for those who don't know me I'm Jeff Brust with New Jersey Marine Fisheries; and Chair of the American Eel Stock Assessment Subcommittee. Before we get into the 2017 update, I just thought I would set the

stage with a quick reminder of what we did for the benchmark in 2012.

The methods, we did a thorough review of the biological data. We looked at a lot of different indices at local, regional, and coastwide levels; so there was a lot of index-based assessment work going on at this point. Then we looked at trend analyses, so a range of different methods; Mann-Kendall methods and ARIMAs and things like that.

We did try a data-poor assessment method, the depletion-based stock reduction analysis. What we found through the peer review was that there were significant declines in many of the surveys over the time period that we were looking at; some of them extending back to the 1970s and 1980s.

The Peer Review Panel did not endorse the findings of the DBSRA; and so because of that we did not have any specific, any official biological reference points. No overfishing or overfished determinations could be made based on just the trend analyses; and because of the declines but without having any official biological reference points, the Committee and the Peer Review Panel recommended that the stock status be found as depleted.

We started the update in 2016. We looked at the data again. We did a thorough review of new research and literature since the benchmark. Because it was an update report, we did not rewrite the entire document. We relied heavily on references to the original benchmark assessment. The introductory sections were updated with the new literature where we found them.

We updated the indices and the data through 2016; where they were available. The methods we used for the update were very consistent with what we did for the benchmark. There were a few tweaks that were necessary, and I'll try to highlight those as we go through the rest

of the report. Because the DBSRA was not approved by the Peer Review Panel, we did not attempt to update that.

It wasn't approved, so there was no need to update it again. The report was made available in the meeting materials. The agenda item is up there; so presentation of the assessment updates by me, and then I guess possible management action by the Board. Before we get into the actual meat of the assessment update, I wanted to thank the Stock Assessment Subcommittee and the TC, and in particular ASMFC staff for the support they provided in developing the document. Just a reminder, we broke the coast up into multiple regions; they're not management regions, just regions for data analysis, and those are shown up there on the slide.

A reminder also that the stock unit is all American eel population occurring in the territorial seas and inland waters along the Atlantic coast from Maine to Florida. We know the stock extends north into Canada and south into Mexico, and South America as well; but the stock that ASMFC has purview over is the Maine through Florida coastline.

As I said, landings data were updated through 2016. For commercial data we tried to corroborate all the different sources of data; so state landings, federal landings, and everything through ACCSP make sure everything was consistent and coherent. A couple of biases that were addressed in the benchmark that we are carrying forward, obviously ASMFC in most states do not have jurisdiction in fresh water, so any harvest that occurs up there is not included.

We looked for indices that occurred in fresh water, and I think we have a couple. But very few states had any landings information from fresh water jurisdictions. Also, reported in the benchmark were concerns about the commercial reporting. This was addressed through Addendum IV, so I'm happy to report



that we had better data reporting for the update than we did for the benchmark.

Here is a slide of commercial landings through 2016. I do want to point out that for the, I think it was the 2009 stock assessment, we used only three regions; North Atlantic, Mid-Atlantic, and South Atlantic. That's what this slide shows. There is no easy way to split the landings to the regions that we have now; because they are watershed based and no one collects data from watersheds, we collect it from the states.

These are not quite consistent with the assessment regions that I showed on the previous slide; but it gives you an idea of where the landings are coming from. You can see looking back, we had a peak in landings in the '70s and early '80s, and it declined from there. But for about the last two decades it has been relatively stable; right around a million pounds.

Here is the same slide or a similar slide with landings in the dark line; as well as the commercial eel value in the dashed line there. That strong uptick in the recent years is most likely an influence of the glass eel fishery; the price in the glass eel fishery. We also collected; we utilized the recreational catch in the harvest information.

Due to the change from MRFSS to MRIP in 2004, we did use the calibration. You can see that most of the eels that are caught are discarded alive. Again, we don't think this is excellent data. Again, because eels extend up into fresh water and the MRIP Survey does not extend into fresh water areas.

We think there is probably a significant amount of catch that is not being reported through the MRIP. But either way the recreational landings are very low; relative to the commercial landings. We're looking at a couple hundred thousand eels as opposed to a million pounds. Moving into the indices, we had 20 state mandated young-of-year-glass-eel indices, as

well as two that were not mandated by ASMFC. This slide up here has a couple of different color codes. I don't know how well you can see those from the back. Hopefully you can at least see the regions listed here on the left. Suffice it to say that the two in yellow are the non-state-mandated-glass-eel surveys. The three in green are new. We did not use these in the benchmark. We added these during the update; and the three in red were updated as late as we could take them, but none of them went through 2016.

Some of them were discontinued. Some of them they changed the sampling location; and so we took it as late as we could with the data that we were given. Those are the 22 glass eel surveys. Just to walk through them very quickly, I'll show each region's glass eel indices. Here is the Gulf of Maine. There were three there.

I guess one thing to keep an eye on when we're going through these. Notice that in any given region, and also across the coast, there is no consistent trend in the index of abundance. Here in the Gulf of Maine, here is one going up. Here is one that is pretty flat; and here is one that is going down.

You'll see across the coast, and even within a region there is not always a lot of consistency, and they are highly variable. Here is the Gulf of Maine. Southern New England we had four. I'll go through these relatively quick. I'll leave them up long enough for each state to see their index; and then I'll move on.

The Hudson River, we only had one glass eel index; it's from the Hudson River Estuary Monitoring. This is one of our longer time series. It is not mandated. It's not one of the ASMFC glass eel surveys. The Delaware Bay and Mid-Atlantic Coast, we had four. We have three of them that are ASMFC mandated, and the one in the lower right is a Rucker's Ichthyoplankton Survey that is not a required ASMFC survey.

Chesapeake Bay there was six, and the South Atlantic we had four. I know this is a little bit hard to see. We did a correlation analysis. The hope is that we would get a lot of indices that are showing the same trend. I've highlighted the ones in red; where they are showing a statistically significant similarity in their trend.

They're all positive correlations; which means they're all showing the same trend. If it was a negative correlation they would be going in opposite directions. It does not mean that the index itself is going up; it just means that these indices are showing the same pattern. For the update we had 20 significant correlations; all of them were positive.

For the benchmark we had ten that were positive and three that were negative. If you're following along in the document, because I recognize this is hard to see. This is Table 8 from Page 97 of the PDF report. You'll see that in the northeast at least, we have pretty good consistency. A lot of the indices are showing similar patterns; at least in the northeast.

Moving on to yellow eel indices, there were 15 of these. We standardized these using GLM where possible; to try and take out influences of non-abundance based changes in the index between years, so trying to account for temperature and timing of the survey and things like that. The four highlighted up here, again these are ones that we were not able to update through 2016; again, the survey location changed or we didn't receive the data, or the survey was just discontinued. For the Gulf of Maine we had no yellow eel indices. For southern New England we had two. For the Hudson River there were three. Again, you can notice they vary widely between years; and also within and across different regions there is not always a consistent pattern. Delaware Bay and Mid-Atlantic there were four. Chesapeake Bay we also had four; and for South-Atlantic there were two.

Again, we did correlations to hopefully show that they had similar patterns. This is Table 10 on Page 100 of the PDF document; if you want to get a closer look at it. Again, in the northeast we see a lot of similar trends. The ones in red are statistically significant; in terms of their similarity. For the yellow eel indices there is actually more similarity with the southern indices as well; which is a good thing.

For this we had 23 significant correlations; all of them positive. Again, a positive correlation does not mean the index is going up. It just means that they're showing a similar pattern. Those were the individual glass eel and yellow eel indices; and then what we wanted to do is try and combine them regionally, and also combine them across the entire coast.

For the coastwide indices, for the young-of-year surveys we did a long term index; which extended back to the 1980s, and also a short term index that was only since 2000, I believe. Then for the yellow eel indices we were able to do three different indices; one for 20 years, one for 30 years, and one for 40 years.

The longer the time series is, the fewer surveys that were included in that combined index; because we only have so many indices going back 40 years. We also did regional indices for glass eels and yellow eels; and then in a minute I'll get into the different trend analyses that we did on these, to see if these combined indices were providing any information.

The coastwide young-of-year indices, the coastwide glass-eel indices, the top left is the short term index; and the bottom right is the long term index. The short term goes back to 2000, and the long term index goes back to 1988. These are the indices that are included in the 20, 30, and 40 year combined yellow eel indices.

I'm sorry, I don't have the actual table listed up here; but it's going to be Table 11 or 12, I

believe. You can see; so one change from the benchmark is for the benchmark we used a PSEG survey that went back to the 1970s, but when we looked at it a little bit more in detail for the update, we realized that they had changed gears a couple of times and that the gear was only consistent back to 1998.

It no longer met the 30 or 40 year requirement, so we were only able to use it for the 20 year index. Here are the three coastwide indices for yellow eel; and the top left is the 40 plus year, the top right is 30 years, and the bottom is 20 years. The regional young-of-year indices, I don't know if you can see these in the back.

The top left is the Gulf of Maine going down on the left side; so Gulf of Maine, southern New England, Hudson River, and then in the right column is Delaware Bay, Chesapeake Bay, and South Atlantic. All right, so correlations for these regional glass eel surveys is shown up here; pretty good correlation among those in the northeast and Mid-Atlantic, and then here are the regional yellow eel indices. Again, on the left column is Gulf of Maine and southern New England where we had no yellow eel indices; and then the Hudson River in the right column is Delaware Bay, Chesapeake Bay and the South Atlantic. Correlations among the yellow eels, there were actually no significant correlations; which is unfortunate. You can sort of see that looking here. There is a lot of variability here. One thing that we wanted to look at is hopefully the glass eel index is going to correlate with the yellow eel index a couple years later as those eels grow older.

We should be able to hopefully see the same signal on the yellow eel, and the glass eels from a few previous years. We tried correlation analyses by lagging the yellow eel and the glass eel indices a different number of years. I forgot to highlight this one, but the Hudson River actually worked pretty well; not a lot of significant correlations among the other

regions, between their glass eel and yellow eel indices.

Those were the individual indices that we looked at; and then we just talked about the combined indices regional and coastwide. The next step was to do trend analyses on some actual statistical tests on these; to see if there is any information in the trends that they're showing us. The four things that we looked at was a power analysis, which tells us the strength of the index.

What is the probability of being able to observe a trend of plus or minus 50 percent over a 10 year period if it actually occurs? If there is so much variability, you're not even going to be able to see a trend. This tests how powerful the index is in being able to show us a trend; if it actually exists.

The Mann-Kendall test just identifies where there is a significant increase or decrease over time. A Manly Analysis does something similar; and it's comparing among the different analyses to see if they're all showing similar patterns. Then the ARIMA is a smoothing process. It's another way of developing an index; but it also gives us the opportunity to compare to a reference point.

It's not a biological reference point; we use the 25th percentile of the observed data points. I'll step through each one of these individually. For the power analysis, this is Table 18 on Page 106 of the PDF document; if you're following along. This shows that our surveys, our indices range in their ability to show us an actual trend; if it actually occurred.

Some of them have a very strong power; like this Connecticut DEP electrofishing that says that there is 100 percent chance of us seeing a trend if the trend actually existed. Then there are some that have a very low probability; such as the Delaware Bay young-of-year survey in

Turville Creek; which gives us only a 6 percent chance of seeing a trend if it actually exists.

These are based on the amount of the CV, the amount of interannual variability seen in the index. If you have a lot of variability between years, it is not going to be able to show you a trend; it's going to look like noise. The ones with small CVs are going to be the ones that give us a lot of power; and the ability to see a trend if it occurs.

For the Mann-Kendall, this is just again, just showing if there is a significant increase or decrease over time. The last two columns on the right there, the second to last column is the result that we saw from the benchmark in 2012. The far right is the trend that we saw for the update in 2016. You can see most of them, both for the update and for the benchmark, show no significant trend over time. You can see though there are a couple that are showing a significant decrease over time; one in the Gulf of Maine, one in southern New England, one in Delaware Bay. Next page, yes this table continues, Chesapeake Bay there are none for either the benchmark or the update that show a significant decrease; and in the South Atlantic there are actually three that are showing a significant decrease that were not showing a decrease during the benchmark.

I'm sorry, so those were just for the glass eels. Now moving into the yellow eel indices, these show a bit more variability or more significant results. But again, very similar to what we saw for the benchmark in 2012. Here are the northern three regions for the yellow eel indices, the southern two regions for the yellow eel indices.

Hopefully it's evident, but up arrow shows that it's a significant increase in trend; and a down arrow is a significant decline in abundance over time in the index. Here are the regional young of year and yellow on the same table. Again, very similar to what we saw for the benchmark.

Here is just a quick synopsis of what we saw for the Mann-Kendall analysis.

The results are not 100 percent comparable between the benchmark and the update; because like I said, we added or subtracted a couple of different indices. But overall the update is showing six significant negative trends in the young-of-year data that were not observed in the benchmark. For the yellow eels a couple fewer negative, but also a couple fewer positive increases.

In regional it's about the same. The Manly results, I'm not going to spend a lot of time on this. Just suffice it to say that this analysis showed that there is a consensus for decline in both life stages. There were enough indices that were showing a significant decline for both glass eels and yellow eels that the result was significant.

But we had the same result for the benchmark; so it's not any worse news than we saw during the benchmark. For the ARIMA, again this is a smoothing analysis. You can see the dots on these plots are the observed index and the solid line through them is the ARIMA estimated model. Then you'll also see the dashed line on each of the plots is the 25th percentile.

It's the lowest 25th percentile of the observed values. What we're looking at here is the probability of the index, the ARIMA Index being below that 25th percentile. We only did this for surveys that had 20 years or more. If it was only 19 or fewer years we did not include it in the ARIMA; just because the models fit better with longer time series.

You can see that there are a couple here that are below the 25th percentile, but many of them are not. I'm sorry, this first plot we did not have any for Gulf of Maine or southern New England that met the 20 year requirement; so the first plot was the Hudson River. Here is the Delaware Bay and Mid-Atlantic.

You can see that this ARIMA is very dependent on the first value in the time series. The top right and the bottom left, you see they fit that first year almost perfectly; and then a straight line through the rest of it. It's not always as useful as we want it to be; and then for the Chesapeake Bay and the South Atlantic.

A summary slide for the ARIMA results, the column on the far right shows the probability of being below the 25th percentile value in the terminal year of the index. Just for comparison, we looked at the probability of being below that 25th percentile in 2012; just for a comparison to the benchmark. What you'll see is that most of them did not change that much. We had one that went up pretty significantly, so the New England Alosine Beach Survey went from 34 percent of being below the benchmark in 2012 up to 72 percent. That shows that we've declined over time. But there is one also that went up pretty significantly. I'm looking for it here and I don't see it.

I won't waste our time looking for it though. Overall, most of the surveys did not change the probability of being below that benchmark; since the benchmark assessment over time. Yes real quick, the benchmark had two surveys where we had a higher than 50 percent probability of being below that 25th percentile benchmark. For the update we had three surveys.

All of the others were above that 25th percentile. What this suggests is that the indices are relatively stable, have been relatively stable since the benchmark was done in 2012. The changes that we did see were small; and some of them went up, some of them went down. There was no consistent directionality in the change.

Just a real quick recap; what have we seen so far? We looked at individual young-of-year and yellow-eel indices; they are highly variable. There are no consistent patterns; the same with

coastwide and regional yellow eel and glass eel indices, highly variable and no consistent patterns. We did multiple different trend analyses. We did their power analysis; which shows that many of the indices we're looking at have low power, and maybe not a lot of ability to show us a trend, if it actually occurs.

The Mann-Kendall showed several with significant declines over time. These were mostly the ones with longer time's series that go back to the 1970s and 1980s when we saw that spike in harvest. The Manly Analysis said that there is consensus among the indices for a decline over time; this was similar to the benchmark, and the ARIMA shows us that most are not likely below the 25th percentile value of the index, for the years that we have data for.

Again, we don't have any biological reference points; because the DBSRA was not approved, and we can't develop those without a life history model. We don't have any official stock status determination for the update. The trend analyses did show significant declines in several of the indices over the time period; but they do appear to have been relatively stable over the last decade or so.

The benchmark concluded that the prevalence of the significant downward trends in multiple surveys was cause for concern. The trend analysis results in the update are consistent with the 2012 results, and so the Assessment Committee and the Technical Committee have determined that the stock of American eel remains depleted. That's it and I'll take any questions.

CHAIRMAN CLARK: Thank you very much, Jeff, to you and to the Stock Assessment Subcommittee for another excellent job of analyzing a lot of data. I know there have got to be a lot of questions here, so can I see some hands of those who have questions for Jeff? I see Rob, and Rob why don't you go ahead and

start; and I'll just write down the names of everybody else.

MR. ROB O'REILLY: I have three short questions. Jeff, when you showed the young-of-year indices, and I realize the correlations are really not significance testing and have no cause and effect. But you were pointing out the ones that were positive. But did the Committee do anything as far as ranking beyond the positive. For example, there were some that were 0.5 a few that were 0.2. I mean it is a correlation, so I was just wondering if that occurred.

MR. BRUST: No, we didn't go beyond the correlation analysis, and we need to be careful because the value itself is not as meaningful; because we have different lengths of time series. It's not just the P value. Well, it incorporates the number of years that are available as well. Ranking them just based on the correlation value is not necessarily meaningful.

CHAIRMAN CLARK: Follow up, Rob?

MR. O'REILLY: Follow up with a different question. I don't see a lot of catch-per-unit effort information; and it would be for the yellow eel for the fisheries, and it would be great to see that to get some indication of availability or abundance; depending on which of those it might be showing. Is it just that there is not a lot of information among the states to have that information, or is it something that has been talked about but not completed?

MR. BRUST: I'm trying to remember. I remember talking about it during the benchmark. You're right though. There are not a lot of states with it. I'm trying to remember; I don't think it was included in the benchmark even, so that's why it wasn't included here. I'm looking at Kristen; hopefully she can remember as well.

MS. KRISTEN ANSTEAD: The benchmark did have commercial CPUE for the yellow eels; it was not part of the update, because it was not used in any of the analysis. But it's definitely something we talked about that if we went back to a benchmark we'd try to more thoroughly get that data from the states.

CHAIRMAN CLARK: Is this a follow up, Rob, or is this a different question?

MR. O'REILLY: A different question.

CHAIRMAN CLARK: Well, okay last one.

MR. O'REILLY: All right and it will be my last one. The DBSRA, so from what I read it will be the next benchmark; but there seems to be some promise that that is the way to get these biological reference points so that we're not sort of in a situation where trying to determine what depleted means every time we get an update, how depleted and everything else. I know that you personally worked with the DBSRA, probably seven or eight years ago, not on eel. I think you're probably the person to answer that question.

MR. BRUST: We did use it for eel; and it is one of these promising models to provide reference points when we don't have reliable age data. We still need to be careful using it for eel though. The issue is again, we don't have much if any information both harvest and index information from fresh water.

One of the concerns that were raised is that when we used it in the past we were only modeling the marine portion of the population. In addition, we need to be careful because the model assumes that carrying capacity has been constant over time; and with the advent of migratory barriers and things like that there are things happening with the population. It is suggested that there are things happening with the population; either mortality or carrying capacity or productivity, whatever that need to

also be hopefully accounted for somehow if we do a model like that. Yes it does have some promise; but I don't want to give anyone the impression that it's going to be the silver bullet.

CHAIRMAN CLARK: Next question is Lynn.

MS. LYNN FEGLEY: Thank you, Jeff that was a great presentation. I know this was a challenging one, so thank you. I have one question that maybe has two parts. The first part of it is that there is a lot of discussion in the document about stability in the indices. It seems as though the places where you're picking up trends that either continued or have appeared since the benchmark, are on the edges of the range.

They're in the north and they're in the south, and the stability appears to be in the middle. I am left wondering a little bit about what we do with that information, if anything, because and here comes part two, as a lot of us I think around this table are really struggling to understand what is the right thing to do with eels? Either it has been discussions about where the cap is set and the triggers.

I wonder in the assessment, when we're using trend analysis, if those results that say not significant are actually masking some more positive news; because I guess I don't understand if those trend analyses can account for variability. For example, in an index where you have in recent years, it may not be consistently trending up. But you do see more frequency of higher abundance indices. That is my question; are all of these ticks down this table that say non-significant.

Some of those that say non-significant actually to me, I look at them and I say well that's great. Because there have been five episodes of higher than average recruitment in the last five years, compared to a flat line in the five years before that. My concern is how we are interpreting the results. I'm certainly not

questioning the results of the assessment. But I wouldn't mind hearing some commentary from you on what you think about that trend analysis; and the inherent variability in the system.

MR. BRUST: You are correct. The trend analyses are not providing, they are all lacking in terms of the amount of information that the trend analysis itself can give us; which is why we tried multiple different versions. All I can say though is that we used the ones that we thought were going to give us the information.

We have had conversations about the utility of each one. Yes, questions just like yourself, it looks like we've had five high years in a row followed by one low year. Is it that one low year that's influencing the result of that analysis? None of them are perfect. Again that is why we did multiple different trend analyses; hoping that collectively they would provide us the information we need. I don't know if that's a satisfactory answer or not.

CHAIRMAN JOHN CLARK: Does that answer your question, Lynn?

MS. FEGLEY: I think it did, Mr. Chairman. Thank you, I guess the challenge really is going forward with this, figuring out a way to make sure that we're adequately characterizing the trajectory of the populations. I know there is no real answer for that right now, so yes I am satisfied.

CHAIRMAN CLARK: Next we have Ritchie.

MR. G. RITCHIE WHITE: Jeff, wouldn't you expect constraining harvest like we have for the period of time that we have that that would show more positive effect? If the question is yes then are we possibly looking at a situation that is similar to many of our other species that are not responding to limiting fishing mortality? It's obviously other factors; then should we not then be looking at a different outcome, and not

trying to chase the replenishing the stock to the level that it used to be?

MR. BRUST: A couple of different ways to take that question. First, recognizing that the Board has restricted harvest and all that; and yes, if harvest is restricted enough then you would expect to see increases in population, if the population was able to do so. First point though is that as I've said a couple times, we don't know what's happening in fresh water; and we really don't know how productive this stock really can be, which is partly because of and partly the reason for us doing trend analyses.

One way to respond to that is yes, you've restricted harvest. But perhaps it hasn't been restricted enough. I'm not saying yes or no it has or it has not, because the second answer to that is we already discussed the impediments to migration and things like that; which might themselves be affecting the productivity of the stock.

To your point; perhaps we should not be expecting increases. Perhaps it's just fine where it is right now. On the one hand, perhaps it is other factors, and on the other hand perhaps we just don't have the information we need to have made the cuts required for the stock to come back. It's stable now; that's a good thing. It is no longer declining. The restrictions have at least moved us in the right direction. But I think it's hard for anyone to say if we know enough if that harvest is the one that will cause a stock increase.

CHAIRMAN CLARK: Follow up, Ritchie.

MR. WHITE: Then how long would you be comfortable if the stock continued as it is now? If we don't change mortality and the stock does not respond, how many years do we look at this way, before we say this is not working and we have to do something different?

MR. BRUST: Can I plead the fifth on that? I don't know if I want to give a personal opinion at this point. It's been a decade or so that it's been flat. These critters can live 20, 25, 30 years. It could be that the cuts we've made, the first cohorts after those cuts are just now reaching maturity. I don't know.

Again, we don't have great age data for the out migrating adults. But we know that males are I think it's like six or seven, and it depends where you are along the coast as well. It's different in the north than the south. But males are five, six, seven, and females it could be 20 before they're even migrating out. It could be a while.

CHAIRMAN CLARK: Kirby.

MR. KIRBY ROOTES-MURDY: Rich, just another thing in follow up to Jeff's comments, you know about a lot of uncertainty. I am going to go through this a little bit with the Allocation Working Group summary later. But effectively, you know we know that landings have increased coastwide; relative to the last stock assessment.

In looking at say baselines, if we incorporate that information it's actually been a higher removal than what we had previously. What that means for the population we don't know. We're in a hard pressed spot to try to provide any kind of speculation on that. But that is just something to keep in mind.

CHAIRMAN CLARK: If I could just interject before we go to our next question. Jeff, when you showed the commercial landings. I just wanted to make everybody aware that most of the landings are coming from estuarine waters. The lifespan of eels in the estuary where the yellow eel fishery is prosecuted, is typically from three to six years is where we see them emigrating.

Just that graph you showed with the stable landings that's probably four or five generations



of eels that have out migrated and produced more. That's just something to keep in mind. That upper lifespan is from fresh water, but where this fishery is prosecuted that is not how long they stay in the estuary. With that next question is from Lance Stewart.

DR. LANCE STEWART: The point I would like to make is that I think it's extremely difficult for us to look at young-of-the-year indices and think they're real. The amount of glass eel variation between all these tributaries is so dramatic and changes from year to year; that it's hard for us as scientists to capture a number that would relate even to the estuarine yellow eel stage.

I think that comparison is just hard to ever make. The most important thing is of course the silver eel; and we have very little data that is being collected on the silver eel abundance or most concerning, the mortalities that we could have some effect on changing. Downstream migration, turbines, all that mortality that occurs from man erected structures could extremely effect glass silver eel production; which completes the cycle.

I would like to see some of the states adapt a silver eel census; to go along with the young of the year yellow eel, which I don't think is a connect at all. It's how much it's being produced in silver eel output. That's the main thing. I think we're focusing on the wrong relationship, and trying to make the statistic work; and looking at controlling a local fishery that really doesn't, I think, generate the numbers of the stock that we're looking at increasing.

MR. BRUST: Thank you that's a great comment, and I believe it is included in our research recommendations. There have been a couple of states that have gone beyond just the glass eel surveys and started a yellow eel survey. The research recommendation was to do like full life history surveys; so glass eel, yellow eel, silver eel. I don't know if any state has actually

started a silver eel survey. But it's at least a research recommendation.

DR. STEWART: Now is the time. All the silver eels are migrating out to the Sargasso right within the next 30 days.

CHAIRMAN CLARK: I had Adam on the list next; but I don't see him here. Okay, so next is Pat.

MR. PATRICK C. KELIHER: Jeff that was a great presentation. I think the take home message for me in hearing it, both with the Subcommittee and now is we do have some stability. But I was going to kind of go in the direction that Lance just went. There is such a high variability of catch year to year within the, especially with the young of the year.

There are two elver fishermen here in the audience that could tell you that from where they fish there are wide ranges of product, elvers within those river systems from one year to the next, and why they have to move so much in order to reach their quota. How do we take that into account? I mean just adding a life cycle.

I mean we started our life cycle study within the state of Maine as a requirement of the FMP. Do we need to do more of this? Do we need to under the TC and the Plan Development Teams, are they taking into account temperature issues, flow issues? Sometimes during the spring we could actually miss that run; depending on staffing issues associated with it. How are we addressing those types of things?

MR. BRUST: When we develop the indices we are doing general linearized models; so yes we are trying to take into account those non abundance based factors that might be influencing how many eel come across that we see in the survey each year, so temperature and flow and things like that. I think if we go to, I think it's the first extra slide.

What I did is for the glass eels in particular, we did the long term and the short term combined glass eel indices; and I put them on the same plot here, and they're made up of totally different surveys. The long term is just three surveys, one in Beaufort, one in outside Atlantic City, and one in the Hudson.

Then the short term is all of the state surveys. They're showing a very similar pattern; except for one or two years that are 2008, 2009, maybe 2010. What you see from completely different sets of surveys we're shown a very similar pattern. In any one given system it looks like there is a lot of variability.

But certainly now the longer the time series we get, they are actually showing some consistency on a coastwide or a regional level. You're right though. It's always been a concern with the Technical Committee about the inter-annual variability in the glass eel surveys. But I was actually pleasantly surprised when I put these on the same plot.

They are showing some level of consistency among the two different combined indices at a coastwide level. That doesn't get rid of the concern, and I think every year the Technical Committee talks about the variability in the glass eel surveys. Should we drop some? Should we add more? What do we do with these? But at least the longer the dataset becomes, we're starting to see patterns.

CHAIRMAN CLARK: Next question is to Robert Boyles. Oh, you're resting your hand, okay then do we have Lynn? Did you have another question?

MS. FEGLEY: Yes, just a quick follow up into Ritchie's point, and a follow up to my original comment. I think Jeff had just said that you know the news is that we seem to have gotten ourselves into a place of stability. I think when you look at the regional differences; and one of the issues that we have in Chesapeake Bay.

When you look at that index, it is Figure 58 in the stock assessment. The Chesapeake Bay yellow eel index is increasing, so the availability of these things for whatever reason, in the middle of the range seems to be doing something different than it is on those edges. That sort of reaches a little bit to Ritchie's point on what are our management actions. What levers are we pulling to control this thing?

MR. BRUST: You're right Lynn. I'm looking at the plot right now; it's Slide Number 33, if you want to pull it up. It is increasing. I do have a note here that I unfortunately never followed up on. For some reason that index stops in 2010 in this slide. I don't recall why. But that doesn't mean it's not still increasing, I just don't know what's happening after that increase.

MS. ANSTEAD: It's because one of the surveys that that index is based on wasn't updated for the update. If you recall for one of the yellow eel regional Mann-Kendall's that it was positive in the benchmark; and still positive for that survey. It's because that survey was actually not updated, so it's the old dataset that went into that index, and that's why that's an abbreviated time series.

CHAIRMAN CLARK: Thanks. Jeff, I just had a question myself, and it kind of follows up on what Lynn was saying. Given that 90 percent of the yellow eel harvest is coming from the Chesapeake and the Delaware drainages, and those areas showed so little trend. Did the Subcommittee think about that? Why a panmictic species like this would only be showing declines in areas where it's not exploited or lightly exploited?

MR. BRUST: I don't recall getting into discussions like that but it's certainly worth looking into.

CHAIRMAN CLARK: Then just one other thing that I'm just a little confused about in there was why the power to detect negative trends was

better than it was to detect positive trends; and does that play out in the surveys you found significantly decreasing. Would a survey having a similar increasing trend not have been found to be significant because of those differences?

MR. BRUST: To be frank, someone told me why it is easier to detect a negative trend than a positive trend. But I don't recall what the answer was. John Sweka did the analysis and he can explain it. But the differences were very small between the power to detect a positive versus a negative trend. I don't think it would have influenced the results at all.

CHAIRMAN CLARK: Okay thanks, just curious; any further questions? Lance.

DR. STEWART: Just a concern about the young-of-the-year index, whether it's real or not. If the states are doing it, what type of consistency between states in the type of sampling gear they're using; the length of time they're using to generate that young-of-the-year quantity is extremely important. It is very variable; if you've ever fished glass eels.

They pulse. It's a night fishery. Whether you use fyke nets or dip nets could be entirely different on what you get as a quantity. I was just wondering if there is some coordinating aspect other than this Board of using a gear that are comparable state to state, or any particular stream to stream. What you pick as an indicator stream is extremely important. I guess if we had more glass eel fishermen they would be able to guide us. Given the lack of that we have to take that into our own management methods within the states. Type of gear, stream selected, to have any confidence whatsoever in young-of-the-year values.

MR. BRUST: You're right. Again, the TC has talked about all these different issues. Right now the way the plan is written is I believe it is up to the state to determine the location and

the gear type. Each state probably went with what was easiest for them; because we're all under financial and staffing difficulties.

I would expect we all went with the lowest common denominator. Right now it is not dictated location or gear type. I guess if we went that route and everyone had to use the same gear and all that we would lose the time series that we have now. We would have to start over. Recognizing it as a concern, but also there are cons to taking it to the next step as well.

CHAIRMAN CLARK: That's right, Jeff. When the plan was first passed, because this is the first time a plan mandated a fishery independent survey like this, there was a lot of concern about having it as easy for the states to do as possible; and to use whatever was being used there. Do we have any further questions for Jeff?

Seeing none; thank you again very much for that great presentation. You'll see the second part of this agenda item is to consider management response to the stock assessment update. I thought we would hold that off until the Item 6, where we're going to be discussing broader management responses to American eel.

#### **CONSIDER THE 2018 GLASS EEL QUOTA FOR MAINE**

CHAIRMAN CLARK: With that; let's move it on to Consider the 2018 Glass Eel Quota for Maine. If you will recall from Addendum IV, Maine's glass eel quota was set for three years; which expired in 2017. Then there is the option in the Addendum to renew Maine's quota for 2018 at the same level as the Addendum IV level.

But to do that the Board has to vote to make that motion to do so. If we can take care of that then we can get on to discussing in the next item management responses that would take

care of some of these issues. Oh well that's even better, Kirby has got a presentation on this.

MR. ROOTES-MURDY: I'll go through this pretty quickly. John highlighted some of the main points I was going to go over. There are the Addendum IV provisions, there is the prior Allocation Working Group recommendations that I think are important to keep in mind. There is the current Allocation Working Group recommendation that was formed at the last Board meeting, and then next steps and I'll take any questions.

Maine's glass eel quota was established through Addendum IV. Currently that is at 9,688 pounds. It's based on the 2014 landings level. That was a recommendation that came from the last Allocation Working Group. The quota was specified for three years, for 2015, '16, '17, and the quota would be as stipulated in the addendum; to be reevaluated after the three years, but prior to the 2018 fishing season.

The 2014 Allocation Working Group laid out four main reasons for why that allocation should be set where it was. The first was uncertainty in the added conservation benefits with a lower quota. The second was the social-economic impacts that would potentially play out for local communities that are fishing on this resource. The third was expected increased levels of poaching and enforcement problems by lowering the quota further; and the fourth, and I'm going to just make sure this is noted or caveated at least. There is an expected inability for Maine to complete an important life cycle study. As you all know, part of Addendum IV lays out that Maine is to do that.

They have been carrying that out. They have 2016 data that I believe they're getting ready to share with the Technical Committee soon; so that's just something to note there. Now, when the Allocation Working Group met, we reviewed the glass eel harvest over the last 11

years, and I've got up on the screen now what those landings were.

These landings were validated with the state as part of the stock assessment process; in part thanks to the work of ACCSP staff. As you can see, there is generally good tracking with what the Addendum IV numbers were versus what the numbers were validated through 2017; 2016 and 2017 are still preliminary. Please keep that in mind when looking at these.

But you can generally tell that in 2016 and '17, landings tracked very well with the quota, approximately 94 percent for those two years of Maine's quota; 2015 is an outlier year. When the Allocation Working Group that was formed at the last Board meeting met in September via conference call, there was one recommendation by one of the Working Group members to increase Maine's glass eel quota back to the 2014 quota level of 11,479 pounds.

But overall the group recommended that Maine's glass eel quota should be maintained for 2018 at the current level that has been in place the last three years of 9,688 pounds. With that for the Board's consideration to specifying Maine's glass eel quota for 2018, again as John alluded to, maintaining the same quota level is allowed under the provisions of Addendum IV. An increase in the quota level would require a new addendum. With that I'll take any questions.

CHAIRMAN CLARK: Any questions for Kirby on Maine's 2018 quota? Mark.

MR. MARK ALEXANDER: Kirby, I don't know the details of the previous Addenda, but is there a default value to which it would fall if the Board doesn't do anything, or what happens?

MR. ROOTES-MURDY: I would just point out we kind of had a similar discussion about this with menhaden before, which is right now without a specified quota. There isn't a quota, so

therefore harvest could continue; but under no restrictions, effectively.

CHAIRMAN CLARK: Any further questions? Emerson.

MR. EMERSON C. HASBROUCK: Kirby thank you for your presentation. I'm not clear as to what the reasoning is behind the Working Group's recommendation that the quota be maintained at the same level and not increased.

MR. ROOTES-MURDY: There are a number of Allocation Working Group members around the table; and they may be able to speak better to why they felt that it should be maintained for the 2018 season. Again, this is just the recommendation for 2018 only. The second part of my presentation that is under the next agenda item, will lay out the other points that were raised by the Working Group.

CHAIRMAN CLARK: I would just reiterate, Emerson, it's in the Addendum. The Addendum gives the Board the ability to extend Maine's Addendum IV quota for one additional year; which would be 2018. That's why the Working Group recommended that. Michelle.

DR. MICHELLE DUVAL: Yes I was going to reiterate that as well as, I think once Kirby gives his presentation that if the Board should choose to move forward with an Addendum, I think it will be revealed that the Working Group's recommendation was that Maine's glass eel quota would then be reconsidered through the course of another addendum.

CHAIRMAN CLARK: Yes, Emerson.

MR. HASBROUCK: Follow up. Then my understanding is that in terms of process, the main reason was keeping it at the same level so that we didn't have to initiate another addendum at this point in time; unless we decide to do so under the next agenda item? Is that right?

CHAIRMAN CLARK: Obviously it takes a while to pass an addendum; so there probably wouldn't be an addendum in place for 2018; which would mean Maine would have no quota during 2018. The thinking was if we initiate an addendum now, Maine will fish under this quota during 2018, the Addendum IV quota, and then there will be an Addendum V for 2019. Are there any further questions? Cheri.

MS. CHERI PATTERSON: I don't have any questions. I would like to make a motion.

CHAIRMAN CLARK: Let me just let Toni get in on this.

MS. TONI KERNS: It's the charter that allows us to extend the provision of this addendum. You can extend a provision of an addendum for six months, and then you can extend it again for another six months; while working on a revision to the document, because the Addendum actually for the glass eel harvest expires at the end of this year. We said we would revisit it in 2018. It would be using that charter provision, so it would just be for six months that you would extend it; and then if we need to we could extend it.

CHAIRMAN CLARK: It was written right into the Addendum; wasn't it, Toni? I mean it says it right in the Addendum that it could be extended for an additional year.

MS. KERNS: I don't see it in the document, John.

CHAIRMAN CLARK: In any event, it can be done, right? Okay, Cheri do you want to go ahead and make a motion?

**MS. PATTERSON: Yes. I would like to make a motion that Maine's glass eel quota shall be maintained for 2018 at the status quo level of 9,688 pounds and leave it at that for now.**

CHAIRMAN CLARK: Do we have a second? Pat Keliher. Toni has just informed us that we need a two-thirds vote for this. Before we get to that though, are there any comments or questions about this? It will be a roll call, okay. Ritchie White.

MR. WHITE: Just to clarify comments that you made that if this does not pass it doesn't mean that Maine does not have any quota; it means they have unlimited quota.

CHAIRMAN CLARK: I'll throw that back to Toni.

EXECUTIVE DIRECTOR ROBERT E. BEAL: It's a good question, Ritchie, and we debated that for a while in menhaden. It's unclear. The plan is silent. There are two perspectives that came out in the menhaden conversation; which were there is unlimited quota or there is zero quota. The plan doesn't help us clarify that. It's unclear what happens if a motion similar to this or some other action isn't taken to set a quota for Maine.

**CHAIRMAN CLARK: Is there any further discussion of this item? Are there any objections to this motion? Seeing there are no objections therefore it obviously passes by a two-thirds majority, so the motion is passed.**  
Bob.

EXECUTIVE DIRECTOR BEAL: Now that the vote has been taken, just a technicality. Since the charter only gives Board's the authority to extend for six months, six months from now we're going to have to revisit this just essentially revote on it, or verify at the Board level that they want to extend it through the end of the calendar year. It's a technicality; but I think the Board's intent is clear; we'll just have to go through that technicality.

CHAIRMAN CLARK: Yes, Cheri.

MS. PATTERSON: I would just like to get some clarification. Are we looking at a year from

now, if we go six months, in six month increments, or do we need to have this start January 1?

EXECUTIVE DIRECTOR BEAL: I think based on the conversation it is clear the Board wants to, you know it's for 2018, so the quota that's in place right now continues through the end of this calendar year and the 2018 quota starts on January 1, 2018. I think the record is pretty clear that the intent of the Board is to start this at the beginning of 2018; carry it half way through '18, revisit this as a technicality, and then complete 2018.

CHAIRMAN CLARK: Okay that should conclude that agenda item.

#### **AMERICAN EEL ALLOCATION WORKING GROUP REPORT AND RECOMMENDATIONS**

CHAIRMAN CLARK: Now we're on to the American Eel Allocation Working Group Report and Recommendations; and Kirby has a report on that.

MR. ROOTES-MURDY: I think that hopefully my presentation will outline kind of the overall goals that the Working Group was trying to get at; and might alleviate any concerns that were raised on the timetable for the motion that just passed. There is an Allocation Working Group that was formed as I said; coming out of the last Board meeting. I'm going to go through a little bit of background. The issue items and recommendations as we've now dispensed with Maine's 2018 glass eel quota.

There are just two parts to it that I was going to walk through fairly quickly; and then take any questions. First is background. We have Addendum IV that was passed in 2014 that laid out yellow eel quota management and allocation, and the glass eel management for Maine. In the summer of 2016 we had a proposal from New York to change the state-by-state quotas; that was shelved until after the

stock assessment update. In the summer of 2017 we provided the Board with an update on 2016 preliminary yellow eel landings; effectively 1A of one of the management triggers we have in Addendum IV. Based on that information, if it held up through finalized landings for 2016, we will have triggered the first part of one of our management triggers.

In September of this year we had this Allocation Working Group meet. Just a typo I have up here, it says Rec. It's actually Allocation Working Group. I deal with a lot of other Rec working groups, so sorry about that. But they met by conference call twice; and developed some recommendations.

Addendum IV's provisions for yellow eel, we have a coastwide cap of 907,671 pounds. It's based on average landings from 1998 to 2010. There is also a filtering approach that I can try to provide a little bit more clarity on, if there are any further questions. But basically under this coastwide cap there are no state-by-state quotas currently. But if the coastwide cap is exceeded, either by one of the two management triggers we go to that.

The first one is if the coastwide cap is exceeded by more than 10 percent in any given year, so 998,438 pounds. The second trigger would be if the coastwide cap was exceeded for two consecutive years; so either by a pound or 50 pounds or 1,000 pounds. Two years of consecutively exceeding the coastwide cap per the Addendum IV provisions, means automatic triggering of state-by-state quotas.

The new coastwide quota would be 907,669 pounds under that approach. If a state had a quota overage, the following year there would be pound-for-pound paybacks. There would be quota transfers that are allowed between states to cover those overages; but just to be clear that if there were no transfers granted, then that state would be liable for dealing with that pound-for-pound payback.

It's also important to keep in mind that since Addendum I to this FMP, there has been an effort to try to improve the accounting, the monitoring of landings across the coast. Addendum IV had implementation plans to further get at better accounting of the commercial eel landings. States needed to demonstrate that they would both be able to monitor landings in a situation where we moved to state-by-state quotas if needed, as well as have metrics in place to close their fishery.

Many states still are on a monthly reporting basis; and it's a little confusing, because in some instances states may have daily reports, but those aren't collated until the month level. We aren't effectively really treating that as daily or weekly reporting. Many states rule making process would create challenges if an automatic triggering of two years exceeding the coastwide cap, or one year exceeding it by 10 percent caused an automatic tripping of the management trigger and implementing state-by-state quotas.

With the help of ACCSP staff, I just want to call them out for all their hard work on going through a process with the states as part of the stock assessment; to get as much of an updated set of information across the coast. The stock assessment lists the information as preliminary; it's an important distinction.

Today I'm offering up what we call validated yellow eel landings. They are not final yellow eel landings. Validated means that ACCSP staff has worked with the states to go back and verify that these landings are in fact true; looking at compliance report information. ACCSP will finalize data later this fall; so that's just an important distinction. I have up on the screen now landings for most of the states and the coastwide total. There are three states that are either at zero or confidential level of landings; and so I don't have those listed here.

Some other important caveats when it comes to looking at the landings information that has been validated. It's from the states during the period of mid-August through early October, 2017. It includes validated landings from all of the state partners; with the exception of Connecticut, whose landings were not included as being updated and validated, due to not responding to the request for validation.

Potomac River Fisheries Commission data is not validated by gear type; and the data is provided using state landings from Maryland and Virginia that have validated their state landings. But in turn those landings that are attributed to PRFC obviously take place either in Maryland or Virginia; because you can't land in Potomac River Fisheries Commission.

New York also provided updated information for 2015 and 2016. They added any non-dealer fishery landings to their dealer landings; and since the dealer reports don't always list the correct gear type, they distribute the total dealer landings amongst the gears reported by fishers that are sold to a dealer.

The Allocation Working Group discussed the concerns around automatically triggering the state-by-state quotas; given the timetable of when landings are actually finalized in a given year. As you are aware for 2016, as I said, we would not know for sure that final landings indicate that the coastwide cap either exceeded by 10 percent, or two consecutive years, until later in the fall.

Trying to implement something like that midseason presented a lot of concerns. The two recommendations that the Allocation Working Group make are to move to implement state-by-state quotas beginning January 1, 2019, if the management triggers have been exceeded based on final 2017 landings information.

That should be available in the fall of next year. The second is to initiate a new addendum to consider alternative allocations, management triggers, and coastwide caps to the current management program for both the yellow eel and glass eel fisheries. Additionally there are the commercial yellow eel state-by-state quotas.

The Allocation Working Group noted that based on the stock assessment information that was provided to them; at that point preliminarily in September there was interest in considering different baselines for basing allocation on for landings from the years of 1998 to 2016. The interest largely stems from regulatory changes that have been put in place since 2014.

It's important to note that the prior Technical Committee recommendation, when asked as part of Addendum IV what the coastwide cap should be set at, recommended a 12 percent reduction from the baseline period. That was ultimately not implemented. The last thing I just wanted to share with this group regarded validated landings for 2016.

If, say we were under a situation where state-by-state quotas were implemented, comparing the states quota to their validated 2016 landings, there are a number of states that would potentially be over in the future if landings were consistent between now, and say next year, if the same harvest level was seen in 2017 as we're seeing in 2016. That would apply to Maine, Connecticut, New York, Maryland, PRFC, Virginia, and then obviously coastwide there is a slight overage. That is just something to keep in mind. This is a hypothetical; I want that to be clear. We are not obviously under state-by-state quotas at this point. With that I'll take any questions.

CHAIRMAN CLARK: Okay do we have any questions for Kirby about the Working Group's recommendations? Bob Ballou.



MR. ROBERT BALLOU: Regarding the first recommendation. I get the point of extending out to January, 2019, the implementation of state-by-state if that trigger were hit. Does the Addendum allow for that?

MR. ROOTES-MURDY: Currently it does not. This is another part of the Commission's process where per the charter requirements, I believe, and I'll look to Bob and Toni to give some more clarity on it. But that we can extend through emergency action the ability to respond to management, effectively delaying based on that.

Now, keep in mind that there are two parts. There is the first recommendation regarding if the coastwide cap was triggered. The second is to initiate a new Addendum. Keep in mind that if a new addendum were to be initiated, and say approved in spring, 2018. That would then possibly change what the coastwide cap is, what the allocations are, and the response. That's something to keep in mind that this is another kind of stop gap or emergency rule type of approach.

CHAIRMAN CLARK: Toni.

**CONSIDER MANAGEMENT RESPONSE TO STOCK ASSESSMENT UPDATE**

MS. KERNS: Emergency action has a series of definitive things that go along with it to justify the emergency action; and I'm not sure we would meet those criteria here. I mean the coastwide cap is set in Addendum IV for yellow eel, and it doesn't have an expiration date like the glass eel quota does. But the Board obviously can work on an addendum to make a change to that cap, and the provisions of that cap.

The Working Group obviously did talk about the ability to implement if the cap is exceeded two years in a row, when they could actually do that; because we don't have final data until the

end of the year. It wouldn't come into play until later on, and if the Board does do an addendum this year, I would assume it would be finalized before the end of the year; which then would replace the Addendum IV provisions, and hopefully work out the problems.

CHAIRMAN CLARK: Are there any other questions for Kirby? Kirby, would you just once again, did you mention where the cap was set? Was it the 2010 landings level?

MR. ROOTES-MURDY: I would have to double check on the exact number. I believe there was a filtering process that was applied; because it's not simply just the average number of years of 1998 to 2010. That was the base years, and then those were kind of augmented based on some more recent year's data, and then a filtering approach, as I said.

CHAIRMAN CLARK: Yes, Jim.

MR. JAMES J. GILMORE: Kirby, can you put up that last slide, the hypothetical overages? If we got into transfers to cover this thing there is obviously not enough transfers to cover all the overages. We would get into an issue of who can get to North Carolina faster. Has there been any thought to how we would deal with that whole issue?

CHAIRMAN CLARK: If I could take that. Yes I mean one of the questions at the Working Group was wrestling with was these problems we know exist in the state-by-state allocations that went back. The difficulties of implementing all this, and of course the first problem being we won't even know for sure whether we have to do it until later next year.

That is why as long as we have to go to an addendum process anyhow, to address the glass eel situation in Maine. The Working Group thought it would be a good idea for the Board to consider including in the addendum

the yellow eel provisions also; just look at everything in the yellow eel.

As we saw in the presentation, our landings obviously went above the cap in 2016, but overall they've been steady for over 20 years. I mean fluctuating in a pretty narrow range. For most other fisheries that would be seen as a pretty good thing; but I'm inserting my opinion here, and I don't mean to do that. Anyhow, I guess at this point, Lynn, do you have a question?

MS. FEGLEY: I was prepared to make a motion, Mr. Chairman; and if I get a second, I would speak to it.

CHAIRMAN CLARK: That would be great. Please proceed.

**MS. FEGLEY: I move to initiate an addendum to consider alternative allocations, management triggers, and the coastwide cap, relative to both the yellow and glass eel commercial fisheries; starting in the 2019 fishing season.**

CHAIRMAN CLARK: We have a second, Marty Gary. Lynn, would you like to speak to the motion?

MS. FEGLEY: Yes, thank you. Just briefly, I really wanted to just speak a little bit, and obviously I come from a state with a fairly large dog on the field. You know Addendum IV was in a way very well done, because by implementing this cap it bought us some time, but also provided the impetus to control annual mortality to constrain the harvest a bit on eels.

I think that was effective. It is clear when you go back through Addendum IV that there was a lot of discussion about what would happen when we go to a state or jurisdiction specific allocation that it's problematic; because of the variations in the market and in the environmental conditions.

Here we are staring down the barrel of a trigger, which maybe in retrospect wasn't as well thought out, because now we're in a situation where if we go over by just one eel, we're going to find ourselves in the situation where we have jurisdictional quotas that can be very hard to create a lot of legislative and administrative burden to monitor. I would hope that with this addendum we can really start to address some of these issues that maybe Addendum IV didn't quite get to; and I would also say that because allocation is what allocation is, all of us are looking at what's going to happen when that trigger is fired. But I think I would encourage us collectively, as we travel down this road, to think really hard about what the specific allocation problem is that we're trying to fix; and target the fix rather than just open up for another spicy discussion about, actually the discussion can be spicy. But the point is that we just really try to focus on fixing where the issues are.

CHAIRMAN CLARK: Do we have further discussion of the motion? Rob O'Reilly.

MR. O'REILLY: I would just like to ask if the alternative allocations include exploring a different baseline. When 2010 was chosen, it was on the basis of that was the last data year from the benchmark. We've now had an update, so is it possible that the alternative allocations also include exploring a different baseline?

CHAIRMAN CLARK: I think that was the intent of the Working Group, Rob, to put all options on the table; any further discussions? **Okay, in that case we can put this motion to a vote. Are there any objections to this motion, first of all? Oh, well seeing no objections, the motion therefore will pass unopposed. Okay, so that settles that. We'll be going to a new addendum.**

**OTHER BUSINESS**

CHAIRMAN CLARK: That ends that item of the agenda, and brings us to other business. A couple of quick items, we have been in contact with a representative, the Minister of Canada's Department of Fisheries and Ocean, Minister Le Blanc, and there is a possibility the Minister will be coming to the winter Board meeting in February; to address the Board and discuss invigorating the MOU between, I think it was between Canada and Atlantic States, Great Lakes Fisheries Commission, and NOAA and the U.S. Fish and Wildlife Service.

That should be an interesting possibility for the winter meeting. Other than that the only other new business we had is once again, if you can look at included in the supplemental materials is a little summary by staff of the activity level needed for American eel. Right now it's at low, since I guess the assessment was just completed. But now that you're doing an addendum are you going to adjust this, Kirby?

MR. ROOTES-MURDY: That's another point that as we had this morning with Shad and River Herring, our diadromous double header for today, to keep in mind when making changes or tasking the TC or initiating new management documents; that it adjust what we say the activity level is for some of these groups.

CHAIRMAN CLARK: Ritchie.

MR. WHITE: Thinking over this motion. This really is starting from scratch; the way I read it. The last time we started from scratch it took a lot of work of a Working Group to come to something that the Board would agree to. I'm wondering whether that makes sense to start with a working group on this right out of the gate.

CHAIRMAN CLARK: That's a great suggestion, Ritchie. Michelle.

DR. DUVAL: I think that's really what Lynn was alluding to, Ritchie, is to really focus on what the heart of the issue is. I mean I think clearly fisheries wax and wane. I mean the intent of the coastwide cap was you know to constrain harvest. Certainly in some areas the fishery has grown, and in other areas it's waned a bit. I think a lot of that at least in North Carolina's instance, has to do more with market than availability of the resource, and so it's really how do we address the waxing and waning needs of the fishery; and perhaps try to avoid having to implement state-by-state quotas in the first place. I think that's really kind of what Lynn was getting at as we move down this road.

CHAIRMAN CLARK: Russ.

MR. RUSS ALLEN: Just following up to what Ritchie said about the Working Group. I'm sure as hell glad I'm retiring, and I don't have to be on that Working Group.

CHAIRMAN CLARK: We can pull you back in, Russ. Maybe we'll get Des on there for you too. Lynn.

MS. FEGLEY: Just one quick follow up. I think that it is true; when we went through the allocation process last time that the Board really wound up doing the best that they could possibly do to mitigate damage equitably to the different jurisdictions. That's one of the reasons why I think it's important for us to focus on the problem.

Like Michelle said, you know how do we get at this fluctuating variability? I would also hope, what I didn't say is I would like to think that there is a way to responsibly manage eels without state-by-state quotas. That's just something for everybody to ponder; if they can think of a way to do that let somebody know.

CHAIRMAN CLARK: Thanks Lynn, and with that is there any further business? Oh, Bob.

EXECUTIVE DIRECTOR BEAL: Just a thought. When we're looking at the overages or the hypothetical overages from 2016, some of the individual state overages percentage wise was pretty large. But when you look at the whole coast, I think the coastwide overage was barely 2 percent. There wasn't this flagrant exceeding the coastwide quota.

Overall the fishery was constrained to the quota, more or less. I think that's something to be proud of. Potentially triggering a very expensive state-by-state quota system and a state-by-state monitoring system, and everything that comes along with it for about 2 percent of a quota that's a lot of effort; the value of the eels that we went over is much less than the expense of the monitoring system we would have. Trying to figure out some way to work within the coastwide quota, we're not that far off right now. We just need to shuffle the deck a little bit, maybe.

CHAIRMAN CLARK: I hear that Bob. Loren.

MR. LOREN W. LUSTIG: Perhaps this is out of order, but I did see Mitch's hand up. Would it be possible to hear what he has to say regarding public comment?

CHAIRMAN CLARK: Sure, come on up Mitch.

MR. FEIGENBAUM: Thank you, Loren, and thank you Mr. Chairman. I just wanted to make a quick point and then ask one quick question. Everyone should remember that in 2014, when we struggled when the Working Group struggled with these very issues, we also had the Fish and Wildlife Service second endangered species assessment being done. Obviously the fact that that has been completed now, and completed with a pretty definitive statement should provide some further clarity as we go forward. My question was you heard two people during the public comment mention that the aquaculture provision in Addendum IV,

as currently written, is implicating future decisions made by people in the industry.

I'm aware that the Technical Committee has in fact struggled with criticisms or concerns about the aquaculture quota that exists now. I know that a party from another state has been before the Technical Committee several times addressing concerns. I just was hoping, could we clarify or could we assume that consider alternative allocations is language broad enough to contemplate the fact that that would be a subject of discussion during the plan development.

CHAIRMAN CLARK: Well Mitch, we're going to be considering the glass eel quota and all the glass eel items also in the addendum. I'm sure that will be part of it. One other issue that Kirby has looked into, and can speak to now, is trying to get better data on the exports of eels. He has some information about site ease.

MR. ROOTES-MURDY: U.S. Fish and Wildlife sitting at the table might be able to speak to this better than I. But Kristen and I were approached about the recent stock assessment update as part of the Site Ease Process that took place last year. There was a request to better evaluate the trade of *Anguilla* species worldwide.

U.S. Fish and Wildlife, I believe, is going to be trying to work with whoever the appointed contractor is of Site Ease, to compile a report of landings; and in turn export/imports of eels leaving the U.S. and going to other markets. That is something that is going to start to rev up, my understanding is in the early part of next year.

But that was the extent of the information we were given on our call; and there may be an opportunity for those representatives from the Fish and Wildlife Service to come and maybe give some more clarity on how that report is going to be generated, and what the potential

implications of it are regarding the Site Ease Process.

CHAIRMAN CLARK: Sherry, do you have any information on that?

MS. SHERRY WHITE: I don't have any information other than what Kirby presented. I think that was accurate, and we would be happy to have Fish and Wildlife Service staff come and update the Board.

**ADJOURNMENT**

CHAIRMAN CLARK: Thank you, great. Is there any other business to come before this Board? Seeing none; we are adjourned.

(Whereupon the meeting adjourned at 4:16 o'clock p.m. on October 17, 2017)



# Atlantic States Marine Fisheries Commission

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## MEMORANDUM

January 8, 2017

**To:** American eel Management Board  
**From:** Kirby Rootes-Murdy, Senior FMP Coordinator  
**RE:** AP Call Summary (December 2017)

**List of AP Participants:** John Pedrick (PA), Mari-Beth Delucia (Chair; TNC), Tim Brush (NH), Mitch Feigenbaum (PA)

**Staff:** Kirby Rootes-Murdy (ASMFC), Dr. Kristen Anstead (ASMFC), Jeff Brust (SAS Chair; NJ)

The Commission's American eel Advisory Panel (AP) met on Thursday December 21<sup>st</sup> 2017 to receive a presentation on the 2017 Stock Assessment Update, recent Technical Committee (TC) work, and management actions.

Jeff Brust the Stock Assessment Subcommittee (SAS) Chair presented the Stock Assessment Update. The assessment updates the 2012 American Eel Benchmark Stock Assessment with data from 2010-2016. Trend analyses of abundance indices indicated large declines in abundance of yellow eels during the 1980s through the early 1990s, with primarily neutral or stable abundance from the mid-1990s through 2016. Total landings remain low but stable. Jeff highlighted that based on these findings, the stock is still considered depleted though no overfishing determination could be made based on the analyses performed.

Based on the presentation a few AP members had questions on whether any information from fishing license and effort information could help demonstrate what the stock size was in the 1970s; Jeff noted that most states did not start collecting eel license and harvest data until the 1990s (prior to that NOAA fisheries primarily collected only landings information), which in addition to other data issues, is why the SAS wasn't been able to ascertain a historic stock size.

Next the group discussed efforts in Canada to also conduct a range-wide stock assessment. Commission staff indicated that they were aware of these efforts and are planning to reach out in 2018 to better understand both the approach and data that Canada Department of Fisheries and Oceans (DFO) plan to use in better assessing the American eel population. The AP encouraged Commission staff to work with Canada DFO complete a new stock assessment.

Kristen then presented some of the recent items the TC has been working on; these items include planning for upcoming Ageing Workshop, Nematode Research conducted by VIMS graduate student Zoemma Warshafsky, and analysis on how well young of year (YOY) fishery independent surveys track regional and coastwide abundance. Kristen highlighted that ageing, as with other marine species, is an important component of trying to better understand the age structure and growth rates of eels. Currently, many of the labs that age eel otoliths have varying levels of experience in reader of the otoliths and that there is generally poor precision and agreement

between the labs in coming up agreed upon ages. The aim of the upcoming ageing workshop is to identify potential biases as well uniform readings protocols.

Over the last two years, Zoemma Warshafsky has provided the American eel TC with updates of her research that has focused on *Anguillicoloides crassus*, a non-native swim bladder parasitic nematode. This type of nematode has been found to decrease swimming ability, decrease survival, reduced growth, cause migration failure. Zoemma's research has demonstrated that glass eel life stage eels have a lower infection rate than yellow life stage eels; the probability of swim bladder damage increases with the size (length) of the eel; the timing of when eels become infected with disease caused by the nematode is most common around age 2 and during the winter months of on November through February; and the disease increasing mortality. Zoemma is developing a quick reference field guide so that state samplers who collect biological data for American eels can score the rate of infection using the same protocol coast-wide; if ready, it will be presented at the ageing workshop in January.

Next, Kirby presented on recent management actions. Starting in 2016, the Commission's American Eel Management Board (Board) approved North Carolina's American Eel Farm (AEF) aquaculture program, allowing the harvest of up to 200 pounds of glass eels for domestic aquaculture purposes. In 2017, AEF harvesters captured 775 glass eels, approximately 0.25 pounds. North Carolina submitted a revised plan for continuing the aquaculture program through 2019, with the Board set to review results of the 2018 fishing season later this year. In discussing this item, AP members asked whether North Carolina's aquaculture program requires the state to conduct a life cycle survey; Commission staff clarified that given aquaculture program only harvest update to 200 pounds, neither North Carolina nor South Carolina- which since the implementation of Addendum IV in 2014 has had a negligible harvest of glass eels (i.e. much less than 750 pounds) – are not required to have a life cycle survey.

Also in 2017, the Management Board initiated a draft addendum aimed at addressing the coastwide cap, the management triggers, and the state by state allocations for the yellow eel fishery as well as Maine's glass eel quota. Commission staff indicated to the group that once the draft addendum document has been approved by the Board for public comment, staff will organize a conference call for the AP to provide comment on the document. Mitch Feigenbaum requested that the addendum consider including options that allow for the states to collectively pool 200 lbs harvest allowances for aquaculture programs (i.e. NJ, DE, PA, would be able to harvest 600 lbs collectively for domestic aquaculture purposes). Commission staff indicated that the Board had formed an allocation Working Group that is working with staff were developing potential options around this concept. Kristen did remind the group that Addendum IV contained language regarding the allowance of glass eel harvest for aquaculture purposes so long as areas where the eels are harvested from have a minimal contribution to the spawning stock, and cautioned that pooling harvest allowances across multiple states, if allowed, so keep this consideration in mind. In further discussing this idea and other approaches, such as purchasing glass eels from Maine dealers, Mitch indicated that the market price right now is cost prohibitive for the purposes of purchasing for stock aquaculture facility.

Last, Mari-Beth brought up that American eel is scheduled to be re-assessed by the IUCN in 2018. The IUCN currently lists American eel on its red list, which indicates species it deems are at risk of extinction and uses the designation to conservation activities of governments, NGOs and

scientific institutions. The IUCN does not have regulatory authority and its conservation status determination of species does not have explicit implications for countries that current manage American eel or other *Anguilla* species, but the conservation status can impact the international public perception of a species as well as influence trade. Any new information or status determination made by the IUCN will be shared with AP members once available.

If you have any questions, please contact Kirby Rootes-Murdy, Senior FMP Coordinator by phone: 703-842-0723 or by email to [krootes-murdy@asmfc.org](mailto:krootes-murdy@asmfc.org)



# Atlantic States Marine Fisheries Commission

## Executive Committee

*February 7, 2018  
8:00 – 9:30 a.m.  
Arlington, Virginia*

## Draft Agenda

The order in which these items will be taken is subject to change;  
other items may be added as necessary.

*A portion of this meeting may be a closed session for Committee members and Commissioners only*

1. Welcome/Call to Order (*J. Gilmore*)
2. Committee Consent
  - Approval of Agenda
  - Approval of Meeting Summary from October 2017
3. Public Comment
4. Atlantic Coastal Cooperative Statistics Program Update
5. Review Leadership Nominating and Election Process
6. Review Indirect Cost Rate
7. Review Appeals Process
8. Review Conservation Equivalency Process
9. Other Business/Adjourn

***Please Note: Breakfast will be served when you arrive; you may arrive as early as 7:30 a.m.***

The meeting will be held at the Westin Crystal City, 1800 Jefferson Davis Highway Arlington, Virginia; 703.486.1111

**MEETING SUMMARY OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
EXECUTIVE COMMITTEE**

**Norfolk Waterside Marriott  
Norfolk, VA  
October 18, 2017**

## INDEX OF MOTIONS

- 1. Approval of Agenda by Consent. (Page 2)**
- 2. Approval of Meeting Summary from August 1, 2017 by Consent. (Page 2)**
- 3. Approval of the FY17 Audit (page 2)**
- 4. Adjournment by Consent (Page 3)**

## **ATTENDANCE**

### **Committee Members**

Pat Keliher, ME	Roy Miller, DE (GA Chair)
Doug Grout, NH	Andy Shiels, PA
Dennis Abbott, NH (LA Chair)	David Blazer, MD
David Pierce, MA	John Bull, VA
Craig Miner, CT	Michelle Duval, NC (proxy for Braxton Davis)
Jason McNamee, RI	Robert Boyles, SC
Jim Gilmore, NY	Spud Woodward, GA
Russ Allen, NJ	Jim Estes, FL
John Clark, DE	

### **Other Commissioners**

Mark Alexander, CT (AA)  
David Borden, RI (GA)  
Ed O'Brien, MD (LA proxy)  
Ritchie White NH (GA)

### **Staff**

Bob Beal	Toni Kerns
Pat Campfield	

### **Others**

John Bullard, NOAA Fisheries	Chip Lynch, NOAA Fisheries
Lindsay Fullenkamp, NOAA Fisheries	Sherry White, USFWS
Derek Orner, NOAA Fisheries	Mike Millard, USFWS
Chris Wright, NOAA Fisheries	

## **CALL TO ORDER**

The Executive Committee of the Atlantic States Marine Fisheries Commission convened in the Marriott I-III Room of the Norfolk Waterside Marriott in Norfolk, Virginia October 18, 2017. The meeting was called to order at 8:00 a.m. by Chair Doug Grout.

## **APPROVAL OF AGENDA**

The agenda was approved as presented.

## **APPROVAL OF PROCEEDINGS**

The summary minutes from the August 1, 2017 meeting were approved as presented.

## **PUBLIC COMMENT**

There was no public comment.

## **FY17 AUDIT**

Staff presented the FY17 Audit. We used a new auditing firm this year, Dixon, Hughes, Goodman, LLP and they did an excellent job. It was noted that revenue is up due to cooperative NMFS/ASMFC projects, but the ACFCMA cooperative agreement has not increased. It was also noted that the three findings from the 2016 Audit were resolved to the satisfaction of the National Marine Fisheries Service and no further action was necessary. On behalf of the Administrative Oversight Committee, Mr. Gilmore moved to approve the FY17 Audit and the motion passed unanimously.

## **TECHNICAL MEETING WEEKS**

Staff suggested to the Executive Committee that Technical Committee (TC) Meeting Weeks may have lost their purpose & usefulness in recent years. Staff was

directed to survey TC members to receive feedback on the effectiveness of meeting weeks. It seemed that TC members felt meeting weeks were helpful in providing structure and planning horizons, and provided opportunities to network and collaborate with members of other Technical committees. The Executive Committee directed staff to schedule TC Meeting Weeks in the spring and summer and plan out as many long term meetings as possible and communicate those meetings at the start of the year.

## **QUARTERLY MEETING SCHEDULE**

The Executive Committee discussed the scheduling of the quarterly meetings to determine if too much work is being packed into too short of time. Some suggested solutions to this perceived issue were to limit the number of major actions being considered at each meeting; expand the length of meetings where allocation issues are discussed; lengthen the Winter and Summer Meeting weeks to 4 full days. The Executive Committee directed staff to provide Roberts Rules training every 2-3 years; to work more closely with Board Chairs on the timing of each agenda item, and to use subcommittees to provide recommendations which has often resulted in quicker and better decisions.

## **STRATEGIC PLAN 2019-2023**

Development of the Commission's next Strategic Plan was discussed, with one question asked whether or not the plan should be 5 years or a shorter time frame. The political landscape changes quickly and it was suggested the plan could reflect this.

Pros and cons were noted for a shorter time frame, including there may be enough time to address the issues at hand in just 2 years. It was noted more philosophical topics like conduct and cooperation should be a strong influence in the plan. It should also be acknowledged that we are not always able to fully restore a species within a given timeframe. Therefore, another metric to show progress/performance may be needed. The Committee agreed to schedule time at the February Meeting Week for brainstorming and plan the course for updating the plan. The timeline is to approve the final plan at the Annual meeting in New York. In February there may be MSRA language which could influence how the Commission moves forward. Issues may need to be broader to be able to better respond to the ever changing political nature of today.

#### **OFFICER NOMINATION PROCESS**

Concerns were raised regarding the nomination process for Commission Chair and Vice Chair this year. Nomination solicitation is split by region and conducted by a different person in each region. Some areas contacted all commissioners and others only contacted the Administrative Commissioners.

The process should ensure all of the commissioners are contacted. Each person on the nomination committee addressed the issue in their own way. In the end all commissioners were contacted, some just relied on the state director to talk with the 2 other Commissioners. It was suggested the language should be clarified on how the nominating committee should be working.

A question was raised: should the delegation give a collective recommendation or should there be individual recommendations? Part of the role of the nominating committee member is to vet information that others may not know, e.g. A potential candidate is going to retire. Who is eligible to serve as chair and vice-chair? The guidelines should clarify who can serve in a leadership role. The Committee agreed to develop a white paper on this issue for review at the February meeting. Questions the white paper should address: Does each commissioner get queried? State director do the query? Consensus? Individual? A combo of these?

#### **ADJOURN**

CHAIR DOUG GROUT adjourned the Executive Committee meeting at 10:00 a.m.

## Atlantic States Marine Fisheries Commission

### **APPEALS PROCESS**

Approved by the ISFMP Policy Board

August 18, 2004

#### **Background**

The Atlantic States Marine Fisheries Commission's interstate management process is based on the voluntary commitment and cooperation of the states. The involved states have frequently demonstrated their willingness to compromise and the overall process has proven to be very successful. However, there have been instances where a state/jurisdiction has expressed concern that the Board decisions have not been consistent with language of an FMP, resulted in unforeseen circumstances or impacts, did not follow established processes, or were based on flawed technical information. In order to address these concerns, the ISFMP Policy Board charged the Administrative Oversight Committee with "exploring and further developing an appeals process".

Under the current management process the primary policy development responsibility lies with species management boards. And, in the case of development of new fishery management plans or amendments the full Commission has final approval authority prior to implementation. The purpose of the appeals process is to provide a mechanism for a state/jurisdiction to petition for a management decision to be reconsidered, repealed or altered. The appeals process is intended to only be used in extraordinary circumstances where all other options have been exhausted. The management boards have the ability to go back and correct errors or address additional technical information through the recently clarified process on "amending or rescinding previous board actions".

During the December 2003 ISFMP Policy Board meeting, the decision was made to continue to have the Policy Board serve as the deliberative body that will consider valid appeals. This decision is consistent with the language that is included in the ISFMP Charter. However, the Charter does not provide detailed guidance on how an appeal is to be addressed.

This paper details for the Commission appeals process.

**Appeal Criteria** –The intent of the appeals process is to provide a state with the opportunity to have a decision made by a species management board or section reconsidered by the Policy Board. The following criteria will be used to guide what type of decisions can be appealed. In general, management measures established through the FMP/amendment/addendum process can be appealed. However, the appellant must use one of the following criteria to justify an appeal:

1. Decision not consistent with FMP
2. Failure to follow process
3. Insufficient/inaccurate/incorrect application of technical information
4. Historical landings period not adequately addressed

5. Management actions resulting in unforeseen circumstances/impacts

The following issues could not be appealed:

1. Management measures established via emergency action
2. Out-of-compliance findings (this can be appealed but, through a separate, established process)
3. Changes to the ISFMP Charter

**Appeal Initiation** – The ISFMP Charter provides that a state aggrieved by a management board action can appeal to the ISFMP Policy Board. Any state can request to initiate an appeal; also a group of states can submit a unified request for an appeal. The states are represented on the Commission by three representatives that have the responsibility of acting on behalf of the states’ Executive and Legislative branches of government. Therefore, in order to initiate an appeal all seated Commissioners (not proxies) of a state’s caucus must agree that an appeal is warranted and must sign the letter submitted to the Commission. If a multi-state appeal is requested all the Commissioners from the requesting states must sign the letter submitted to the Commission. During meetings where an appeal is discussed proxies will be able to participate in the deliberations. Meeting specific proxies will not be permitted to vote on the final appeal determination, consistent with Commission policy.

A state (or group of states) can request and appeal on behalf of the Potomac River Fisheries Commission, District of Columbia, National Marine Fisheries Service, or the United States Fish and Wildlife Service.

The letter requesting an appeal will be submitted to the Chair of the Commission and include the measure(s) or issue(s) being appealed, the justification for the appeal, and the commitment to comply with the finding of the Policy Board. This letter must also include a demonstration that all other options to gain relief at the management board level have been exhausted. This letter must be submitted via certified mail at least **45 days** prior to a scheduled ASMFC Meeting Week. The Commission Chair, Vice-Chair and immediate past Chair will determine if the appeal meets the qualifying guidelines and notify the Policy Board of their decision. If the immediate past chair is no longer a commissioner the Chair will select an alternate from a state that is not affected by the appeal.

**Convene a “Fact Finding” Committee (optional)** -- Upon review of the appeal documentation, the Commission Chair, Vice-Chair and immediate past Chair (or alternate if necessary, as described above) may establish a “Fact Finding” Committee to conduct analyses and/or compile additional information if necessary. This group will be made up of individuals with the technical expertise (including legal, administrative, social, economic, or habitat expertise if necessary) and familiarity with the fishery to conduct the necessary analysis. If such a committee is convened the schedule included in the last section of this document may need to be adjusted to provide time for the Committee to conduct analyses. The Commission Chair, Vice-Chair and immediate past Chair (or



alternate if necessary, as described above) may set a deadline for the Committee to complete its work to ensure the appeal is addressed in a timely manner.

**ISFMP Policy Board Meeting** –Following the determination that an appeal has met the qualifying guidelines, a meeting of the Policy Board will be convened at a scheduled ASMFC meeting week. The agenda of this meeting will be set to allow sufficient time for all necessary presentations and discussions. The Chair of the Commission will serve as the facilitator of the meeting. If the Chair is unable to attend the meeting or would like to more fully participate in the deliberations, the Vice-Chair of the Commission will facilitate the meeting. The ISFMP Director will provide the background on the development of the management program as well as a summary of the justification provided in the record for the management board’s action. The ISFMP Director will also present the potential impacts of the appeal on other affected states. The appellant Commissioners will present their rationale for appealing the decision and provide a suggested solution. The Policy Board will then discuss the presentations and ask any necessary questions. The Board will vote to determine if the management board’s action was justified. A simple majority of the Policy Board is required to forward a recommendation to a management board for corrective action. If the Policy Board determines that the existing management program should be modified, it will issue a finding to that effect as well as any guidance regarding corrective action to the appropriate species management board. The referral may be worded to allow the management board flexibility in determining the details of the corrective action.

Upon receipt of the Policy Board’s recommendation the management board will discuss the findings and make the necessary changes to address the appeal. The management board is obligated to make changes that respond to the findings of the Policy Board. A simple majority of the management board will be necessary to approve the changes.

**Appeal Products and Policy Board Authority**—Following the Policy Board meeting a summary of the meeting will be developed. This summary will include a detailed description of the findings and will be forwarded to the appropriate management board and Policy Board upon completion. If the Policy Board determines that changes to the management program are necessary, the summary may include guidance to the management board for corrective action. The report of the Policy Board will be presented to the management board for action at the next scheduled meeting.

**Considerations to Prevent Abuse of the Appeals Process** – The appeals process is intended to be used only in extraordinary situations and is in no way intended to provide a potential avenue to preempt the established board process. The initiation of an appeal will not delay the Commission process for finding a state out of compliance nor delay or impede the imposition of penalties for delayed compliance.

**Limiting Impacts of Appeal Findings** – If a state is successful in an appeal and the management program is altered, another state may be negatively impacted by the appeals decision. In order to prevent an appeals “chain reaction,” the Policy Board’s recommendation and the resulting management board’s decision will be binding on all

states. All states with an interest in the fishery will be obligated to implement the changes as approved by the management board. Upon completion of the appeals process, a state is not precluded from taking further action beyond the Commission process to seek relief.

If the Policy Board supports the appeal and determines that corrective action is warranted, the potential for management changes to negatively impact other states will be evaluated by the Policy Board and the species management board.

### **Appeals Process Timeline**

1. Within **15 working days** of receipt of a complete appeal request the Commission Chair, Vice-Chair, and immediate past chair (or alternate) will determine if the state has an appeal which meets the qualifying guidelines.
2. Upon a finding that the appeal meets the qualifying guidelines, the appeal will be included on the agenda of the ISFMP Policy Board meeting scheduled during the next ASMFC Meeting Week (provided an adequate time period is available for preparation of the necessary documentation).
3. Following the finding that an appeal meets the qualifying guidelines, Commission staff and the appellant commissioners will have a minimum of **15 working days** to prepare the necessary background documents.
4. The background documents will be distributed at least **15 days** prior to the Policy Board meeting.
5. A summary of the Policy Board meeting will be developed and distributed to all Commissioners within **15 working days** of the conclusion of the meeting.

# Atlantic States Marine Fisheries Commission

## CONSERVATION EQUIVALENCY: Policy and Technical Guidance Document



First Edition Approved May 2004  
Revised and Approved October 2016

## **Introduction**

The purpose of this document is to provide policy and technical guidance on the application of conservation equivalency in interstate fisheries management programs developed by the Atlantic States Marine Fisheries Commission. The document provides specific guidance on development, submission, review and approval of conservation equivalency proposals.

## **Background**

The Atlantic States Marine Fisheries Commission (ASMFC) employs the concept of conservation equivalency in a number of interstate fishery management programs.

Conservation equivalency allows states/jurisdictions (hereafter states) flexibility to develop alternative regulations that address specific state or regional differences while still achieving the goals and objectives of Interstate Fishery Management Plans (IFMPs). Allowing states to tailor their management programs in this way avoids the difficult task of developing one-size-fits-all management measures while still achieving equivalent conservation benefits to the resource.

Conservation equivalency is currently defined in the Interstate Fisheries Management Program (IFMP) Charter as:

*“Actions taken by a state which differ from the specific requirements of the IFMP, but which achieve the same quantified level of conservation for the resource under management. One example can be, various combinations of size limits, gear restrictions, and season length can be demonstrated to achieve the same targeted level of fishing mortality. The appropriate Management Board/Section will determine conservation equivalency.” The application of conservation equivalency is described in the document Conservation Equivalency Policy and Technical Guidance Document*

In practice, the ASMFC frequently uses the term “conservation equivalency” in different ways depending on the language included in the plan. Due to concerns over the lack of guidance on the use of conservation equivalency and the lack of consistency between fishery management programs, the IFMP Policy Board approved a policy guidance document on conservation equivalency in 2004. Since 2004, some of the practices of the Commission regarding conservation equivalency have changed. The revisions to this document reflect current Commission practice.

## **General Policy Guidance**

The use of conservation equivalency is an integral part of the Commission management process. Conservation equivalency is used in 2 ways: (1) in the development of the IFMP (including implementation plans) and (2) as alternative management programs outside of the IFMP process.

During the development of a management document the Plan Development Team (PDT) should recommend if conservation equivalency should be permitted for that species. The board should provide a specific determination if conservation equivalency is an approved option for the

fishery management plan, since conservation equivalency may not be appropriate or necessary for all management programs. The PDT should consider stock status, stock structure, data availability, range of the species, socio-economic information, and the potential for more conservative management when stocks are overfished or overfishing is occurring when making a recommendation on conservation equivalency. During the approval of a management document the Board will make the final decision on the inclusion of conservation equivalency.

If conservation equivalency is determined to be appropriate, the conservation equivalency process should be clearly defined and specific guidance should be supplied in the fishery management documents. Each of the new fishery management plans, amendments, or addenda should include the details of the conservation equivalency program. The guidance should include, at a minimum, a list of management measures that can be modified through conservation equivalency, evaluation criteria, review process, and monitoring requirements. If possible, tables including the alternative management measures should be developed and included in the management documents. The development of the specific guidance is critical to the public understanding and the consistency of conservation equivalency implementation.

Conservation equivalency proposals and Board approval are not required when states adopt a single more restrictive measure than those required in the FMP (e.g., higher minimum size, lower bag limit, lower quota, lower trip limit, closed or shorter seasons). These changes to the management program should be included in a state's annual compliance report or state implementation plan. If states intend to change more than one regulation where one is more restrictive but the other is less restrictive, even if the combined impact is more restrictive, states must submit a conservation equivalency proposal due to unexpected consequences that may arise (e.g., a larger minimum size limit could increase discards).

The states have the responsibility of developing conservation equivalency proposals for submission to the Plan Review Team (see standards detailed below). Upon receiving a conservation equivalency proposal the PRT will initiate a formal review process as detailed in this guidance document. The state submitting the conservation equivalency proposal has the obligation to ensure proposed measures are enforceable. If the PRT has a concern regarding the enforceability of a proposed measure it can task the Law Enforcement Committee with reviewing the proposal. Upon approval of a conservation equivalency proposal, the implementation of the program becomes a compliance requirement for the state. Each of the approved programs should be described and evaluated in the annual compliance review and included in annual FMP Reviews.

The management programs should place a limit on the length of time that a conservation equivalency program can remain in place without re-approval by the Board. Some approved management programs may require additional data to evaluate effects of the management measures. The burden of collecting the data falls on the state that has implemented such a conservation equivalency program. Approval of a conservation equivalency program may be terminated if the state is not completing the necessary monitoring to evaluate the effects of the program.

The Plan Review Team (PRT) will serve as the “clearing house” for approval of conservation equivalency proposals. All proposals will be submitted to the PRT for review. The PRT will collect all necessary input from the technical committee, Law Enforcement Committee, Committee on Economics and Social Sciences and the Advisory Panel. The PRT will compile input from all of the groups and forward a recommendation to the management board.

### **Standards for state conservation equivalency proposals**

Each state that is seeking to implement a conservation equivalency program must submit a proposal for review and approval. Proposals that include an excessive number of options may delay timely review by the PRT and other groups and may ultimately delay the report to the Board. The states should limit the number of options included in a proposal or prioritize the options for review.

State conservation equivalency proposals should contain the following information:

1. Rationale: Why or how an alternate management program is needed in the state. Rationale may include, but are not limited to, socio-economic grounds, fish distribution considerations, size of fish in state waters, interactions with other fisheries, protected resource issues and enforcement efficiency.
2. Description of how the alternative management program meets all relevant FMP objectives and management measures (FMP standards, targets, and reference points). States are responsible for supplying adequate detail and analysis to confirm conservation equivalency based on the most recent stock assessment.
3. A description of:
  - Available datasets used in the analysis and data collection method, including sample size and coefficient of variation.
  - Limitations of data and any data aggregation or pooling.
    - The Technical Committee (TC) should determine an acceptable level of precision for all landings data and develop data standards for other data types used. States may request (but are not required) this information prior to the submission of their proposal. (Any analyses that do not meet approved precision standards should conduct sensitivity analyses to determine the effects of the data uncertainty)
  - The length of time the state is requesting conservation equivalency and a review schedule for the length of the program. If the state does not intend to have an expiration date for the program it should be clearly stated in the proposal with justification. Proposals should identify the length of time measures are intended to be in place and the timing of the review of the specific measures.

4. Each proposal must justify any deviations from the conservation equivalency procedures detailed in the FMP. The state should conduct analyses to compare new procedures to procedures included in the plan, as appropriate, including corroborative information where available.
5. Include a plan describing the monitoring schedule, reporting requirements and documentation process of evaluating the impacts of the conservation equivalency measures.

### **Review Process**

Implementation of new amendments/FMPs should include timelines and a review process for conservation equivalency proposals. However, the review process and timeline needs to be established for all conservation equivalency proposals that are submitted outside of the implementation of a new management document.

The following is a list of the steps and timelines for review and approval of conservation equivalency proposals. Any deviations from the following process should be included in the FMP.

1. Conservation equivalency should be approved by the Management Board and where possible implemented at the beginning of the fishing year.
2. If a state is submitting a proposal outside of an implementation plan process, it must provide the proposal two months in advance of the next board meeting to allow committees sufficient time to review the proposal and to allow states to respond to any requests for additional data or analyses. States may submit conservation equivalency proposals less than two months in advance of the next board meeting, but the review and approval at the upcoming board meeting is at the discretion of the Species Management Board Chair. Proposals submitted less than two weeks before a meeting will not be considered for approval at that meeting. The board chair will submit proposal to the Plan Review Team (PRT) for review.
3. The PRT should notify the state that the proposal is complete.
4. Upon receipt of the proposal, the PRT will determine what additional input will be needed from: the Technical Committee (TC), Law Enforcement Committee (LEC), and Committee on Economic and Social Sciences (CESS). The PRT will distribute the proposal to all necessary committees for comment. The review should include a description of the impacts on or from adjoining jurisdictions or other management entities (Councils and/or NMFS). If possible this description should include qualitative descriptions addressing enforcement, socio-economic issues and expectations from other states perspective (shifts in effort). The review should highlight efforts to make regulations consistent across waterbodies.

5. The PRT will compile all of the input and forward the proposal and comments to the Advisory Panel when possible. However, when there are time limitations, the AP may be asked for comments on a proposal prior to completion of other committee reviews. The Chair of the Advisory Panel (AP) will compile the AP Comments and provide a report to the Management Board.
6. The PRT will forward to the Board the proposal and all committee reviews, including any minority reports. The PRT will provide comment on whether the proposal is or is not equivalent to the standards within the FMP. If possible the PRT should identify potential cumulative effects of all conservation equivalency plans under individual FMPs (e.g. impacts on stock parameters).
7. The PRT reviews should address whether a state's proposal followed the CE standards outlined in this policy, and any additional specifications included in the FMP.
8. The Board will decide whether to approve the conservation equivalency proposal and will set an implementation date, taking into account the requested implementation date in the proposal. Board action should be based on the PRT recommendation as well as other factors such as impacts to adjoining states and federal management programs. When a board cannot meet in a timely manner and at the discretion of the board and Commission Chair, the boards have the option to have the ISFMP Policy Board approve the conservation equivalency plan.

#### **Plan Review Following Approval and Implementation**

1. Annually thereafter, states should describe and evaluate the approved conservation equivalency programs in their compliance reports submitted for annual FMP Reviews.
2. The PRT is responsible for evaluating all conservation equivalency programs during annual FMP reviews to determine if the conditions and goals of the FMP are maintained, unless a different timeline was established through board approval. If the state is not completing the necessary monitoring to evaluate their approved conservation equivalency program, this may be grounds for termination of the plan. The PRT will report to the Board on the performance of the conservation equivalency program, and can make recommendations to the Board if changes are deemed necessary.

#### **Coordination Guidance**

The Commission's interstate management program has a number of joint or complementary management programs with NOAA Fisheries, US Fish and Wildlife Service and the Fishery Management Councils. Conservation equivalency creates additional burden on the Commission to coordinate with our federal fishery management partners. To facilitate cooperation among partners, the Commission should observe the following considerations.



- The Commission's FMPs may include recommendations to NOAA Fisheries for complementary EEZ regulations. Conservation equivalency measures may alter some of the recommendations contained in the FMPs, which would require the Commission notify NOAA Fisheries of any changes. The Commission needs to consider the length of time that it will take for regulations to be implemented in the EEZ and try to minimize the frequency of requests to the federal government.
- The protocol for NOAA fisheries implementing changes varies for the different species managed by the Commission. The varying protocols need to be considered as conservation equivalency proposals are being developed and reviewed.
- When necessary for complementary management of the stock, the ASMFC Chair will request federal partners to consider changes to federal regulations.

# Atlantic States Marine Fisheries Commission

## Weakfish Management Board

*February 7, 2018  
11:30 a.m. – 12:15 p.m.  
Arlington, Virginia*

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

- |                                                                                                                                                                                 |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 1. Welcome/Call to Order ( <i>R. O'Reilly</i> )                                                                                                                                 | 11:30 a.m. |
| 2. Board Consent                                                                                                                                                                | 11:30 a.m. |
| • Approval of Agenda                                                                                                                                                            |            |
| • Approval of Proceedings from May 2016                                                                                                                                         |            |
| 3. Public Comment                                                                                                                                                               | 11:35 a.m. |
| 4. Consider Approval of 2017 Fishery Management Plan Review and State Compliance Reports ( <i>M. Schmidtke</i> ) <b>Action</b>                                                  | 11:45 a.m. |
| 5. Consider the Use of Fishery-independent Samples in Fulfilling Biological Sampling Requirements of the Fishery Management Plan ( <i>M. Schmidtke</i> ) <b>Possible Action</b> | 11:55 a.m. |
| 6. Discuss Recent Changes in Discards in North Carolina ( <i>C. Batsavage</i> )                                                                                                 | 12:10 p.m. |
| 7. Other Business/Adjourn                                                                                                                                                       | 12:15 p.m. |

The meeting will be held at the Westin Crystal City, 1800 Jefferson Davis Hwy, Arlington, Virginia 22202; 703.486.1111

# MEETING OVERVIEW

## Weakfish Management Board Meeting

Wednesday, February 7, 2018

11:30 a.m. – 12:15 p.m.

Arlington, Virginia

Chair: Rob O'Reilly (VA) Assumed Chairmanship: 2/18	Technical Committee Chair: Erin Levesque (SC)	Law Enforcement Committee Representative: Steve Anthony (NC)
Vice Chair: Vacant	Advisory Panel Chair: Billy Farmer (NC)	Previous Board Meeting: May 5, 2016
Voting Members: MA, RI, CT, NY, NJ, DE, MD, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS (15 votes)		

### 2. Board Consent

- Approval of Agenda
- Approval of Proceedings from May 5, 2016

**3. Public Comment** – At the beginning of the meeting public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

### 4. Consider 2017 FMP Reviews and State Compliance Reports (11:45 – 11:55 a.m.) Action

#### Background

- State Compliance Reports are due on September 1. The Plan Review Team (PRT) reviewed each state report and compiled the annual FMP Review. Massachusetts, Connecticut, Georgia, and Florida have applied for *de minimis*. (**Supplemental Materials**)

#### Presentations

- Overview of the FMP Review by M. Schmidtke

#### Board actions for consideration at this meeting

- Accept 2017 FMP Review and State Compliance Reports
- Approve *de minimis* requests for MA, CT, GA, and FL.

### 5. Consider the Use of Fishery-independent Samples in Fulfilling Biological Sampling Requirements of the Fishery Management Plan (11:55 a.m. – 12:10 p.m.) Possible Action

#### Background

- In recent years, the PRT has noticed that several states have had difficulty fulfilling the biological sampling requirements of Addendum I to Amendment 4 due to the declining state of the weakfish fishery.

- Some states have fulfilled the biological sampling requirements using fishery-independent samples. While Addendum I does not explicitly prohibit the use of fishery-independent samples, language in Addendum I indicates that sampling requirements are intended to characterize the fishery.
- The PRT seeks guidance from the Board on the intent of biological sampling requirements and the appropriateness of using fishery-independent samples to fulfill these requirements.

**Board actions for consideration at this meeting**

- Consider approval of the use of fishery-independent samples to fulfill biological sampling requirements of Addendum I.

**6. Discuss Recent Changes in Discards in North Carolina (12:10 – 12:15 p.m.)**

**Background**

- Over the last 2 years, increased numbers of weakfish catches substantially exceeding the 100-pound trip limit have been reported for North Carolina's ocean gill net fishery targeting Atlantic croaker offshore of Oregon Inlet.

**Board actions for consideration at this meeting**

- Consider tasking the Technical Committee to review weakfish discard data to characterize the fisheries with substantial weakfish discards (gear types, amount of gear, mesh sizes, target species, etc.) and to see if different trip limits could be implemented to turn discards into landings or gear modifications could be made to minimize discards.

**7. Other Business/Adjourn**

## Weakfish Board

**Activity level: Low**

**Committee Overlap Score:** High (American Eel TC, Atlantic Croaker TC, Cobia TC, Horseshoe Crab SAS & TC, Menhaden TC, Shad and River Herring TC, Striped Bass TC & SAS, Tautog TC)

### Committee Task List

- Technical Committee – August: Review new MRIP estimates and discuss potential assessment update
- Technical Committee – September 1: Compliance Reports Due

**TC Members:** Erin Levesque (SC, Chair), Katie Drew (ASMFC), Michael Schmidtke (ASMFC), Robert Glenn (MA), Christopher Parkins (RI), Paul Nunnenkamp (NY), Linda Barry (NJ), Michael Greco (DE), Harry Rickabaugh (MD), Ellen Cosby (PRFC), Sydney Alhale (VA), Steve Poland (NC), B.J. Hilton (GA), Dustin Addis (FL), Wilson Laney (USFWS)

**SAS Members:** Katie Drew (ASMFC), Michael Schmidtke (ASMFC), Linda Barry (NJ), Ed Hale (DE), Angela Giuliano (MD), Yan Jiao (Virginia Tech), Laura Lee (NC), Erin Levesque (SC)

**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
WEAKFISH MANAGEMENT BOARD**

**The Westin Alexandria  
Alexandria, Virginia  
May 5, 2016**

**These minutes are draft and subject to approval by the Weakfish Management Board.  
The Board will review the minutes during its next meeting.**

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These minutes are draft and subject to approval by the Weakfish Management Board.  
The Board will review the minutes during its next meeting.

**INDEX OF MOTIONS**

1. **Motion to approve agenda** by Consent (Page 1).
2. **Motion to approve proceedings of November, 2015** by Consent (Page 1).
3. **Move to approve the 2016 Weakfish Benchmark Stock Assessment and Peer Review Reports for management use** (Page 17). Motion by Adam Nowalsky; second by John Clark. Motion carried (Page 17).
4. **Motion to adjourn by Consent** (Page 22).

These minutes are draft and subject to approval by the Weakfish Management Board.  
The Board will review the minutes during its next meeting.



**ATTENDANCE**

**Board Members**

Nicola Meserve, MA, proxy for D. Pierce (AA)	John Clark, DE, proxy for D. Saveikis (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Ed O'Brien, MD, proxy for Del. Stein (LA)
Jason McNamee, RI, proxy for J. Coit (AA)	Lynn Fegley, MD, proxy for D. Blazer (AA)
David Borden, RI (GA)	Rob O'Reilly, VA, proxy for J. Bull (AA)
Colleen Giannini, CT, proxy for D. Simpson (AA)	Cathy Davenport, VA (GA)
Mike Falk, NY, proxy for Sen. Boyle (LA)	Doug Brady, NC (GA)
Steve Heins, NY, proxy for J. Gilmore (AA)	Chris Batsavage, NC, proxy for B. Davis (AA)
Emerson Hasbrouck, NY (GA)	Robert Boyles, SC (LA)
Tom Fote, NJ (GA)	Spud Woodward, GA (AA)
Russ Allen, NJ, proxy for D. Chanda (AA)	Pat Geer, GA, proxy for Rep. Burns (LA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)	Nancy Addison, GA (GA)
Craig Pugh, DE, proxy for Rep. Carson (LA)	Jim Estes, FL, proxy for J. McCawley (AA)
	Wilson Laney, USFWS

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

Joe Cimino, Technical Committee Chair

**Staff**

Bob Beal	Katie Drew
Toni Kerns	Max Appelman
Megan Ware	

**Guests**

Jeff Brust, NJ DFG	Robert T. Brown, MD Waterman's Assn.
Dan McKiernan, MA DMF	David Bush, NCFA
Jack Travelstead, CCA	Arnold Leo, East Hampton, NY
Jeff Deem, VMRC	

These minutes are draft and subject to approval by the Weakfish Management Board.  
The Board will review the minutes during its next meeting.

The Weakfish Management Board of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of the Westin Hotel, Alexandria, Virginia, May 5, 2016, and was called to order at 8:00 o'clock a.m. by Chairman Russ Allen.

#### **CALL TO ORDER**

CHAIRMAN RUSS ALLEN: Good morning everyone, let's get this started. My name is Russ Allen; Jersey Fish and Wildlife, I'm the Chairman of the Weakfish Board.

#### **APPROVAL OF AGENDA**

CHAIRMAN ALLEN: First off, everybody has seen the agenda. Are there any changes to the agenda, edits, or comments? Seeing none; we'll consider the agenda approved.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN ALLEN: Also I would like to get an approval of the proceedings from the last meeting in November of 2015; any edits, comments? Seeing none; we'll consider those approved.

#### **PUBLIC COMMENT**

CHAIRMAN ALLEN: This is where we open up public comment for anything that is not on the agenda today. I do not have anybody scheduled for public comment, anybody in the audience? Seeing none; we will jump into this.

#### **WEAKFISH BENCHMARK STOCK ASSESSMENT**

CHAIRMAN ALLEN: First up is the 2016 stock assessment. Jeff Brust is going to give the stock assessment overview, and then Pat Campfield will give the Peer Review Panel. In between if there are some clarifications that we need from Jeff, we can do that; but I would like to save most of the questions until after both reports. I'll turn it over to Jeff now.

#### **STOCK ASSESSMENT OVERVIEW**

MR. JEFF BRUST: Yes, my name is Jeff Brust. I am the Chair of the Weakfish Stock Assessment Subcommittee. I'll be presenting the summary of the stock assessment that we just completed earlier this year. Obviously this was not just my work, so I would like to acknowledge my partners in crime here for the Stock Assessment Subcommittee, as well as we also had significant input from the Weakfish Technical Committee.

If you see any of these folks say thank you. Just a real quick overview of the critter that we're dealing with, weakfish, I'm sure we're all familiar with it. It has a moderate life span, they live 12 to 15 years, and they've been recorded as old as 17 years. They have highly variable growth, you can see down here that a two-year old fish could be anywhere from 100 millimeters up to about 650 millimeters, so anywhere from 4 inches to two feet.

We do consider them recruited to the fishery around Age 2. You can see that a lot of them are about 300 millimeters by Age 2, and that is roughly the minimum size in most of the fisheries we have. They do mature very quickly; they are 90 percent mature by Age 1. They have a typical migratory pattern for a lot of the Mid-Atlantic species; north and inshore in the spring.

Moving up from Hatteras and areas south as the waters warm, and then as they cool off in the fall they'll head back down south and offshore for the winter. It is primarily a commercial species. You can see in the top figure the bottom, the blue; you can see it is about 50 to 80 percent commercial harvest. The next largest would be the recreational harvest, but you can see as we've added more and more regulations the discard mortality has had an increasing impact on the removals. The bottom figure, it is pretty similar for the recreational as well. That is the commercial harvest by state, and you can see that North

Carolina, Virginia, and New Jersey are the top harvesters for commercial; as well as recreational. Those are the three big states that we're dealing with.

A quick overview of how we got to where we are, in terms of the assessment. Most of the previous assessments were done using ADAPT-VPA; it's an age-structured model that works backward from the current year. Prior to the 2009 stock assessment, we were seeing these signs that productivity in the stock had been changing, and it wasn't related to fishing.

We were suspecting natural mortality, so at the time for the 2009 stock assessment, we put a lot of effort into identifying ways to capture this trend in natural mortality. How can we model what is happening with natural mortality? We were looking at things like food habits, environmental drivers, and predation and competition.

We went to the 2009 peer review that was conducted through the SARC process, with a lot of models that focused on these extended factors. The outcome from that SAW panel was that natural mortality is increasing. These extended models, so we had population models that were trying to incorporate predation and competition into the models.

The Panel didn't necessarily approve those. They said it is good work, but there is no empirical evidence. We didn't have any direct evidence of weakfish in striped bass and spiny dogfish stomachs. The models were good, but they couldn't support those, because we didn't have the empirical evidence to show that it was specifically predation or competition.

The accepted model from that SAW-SARC was a very simple, non-aged structured relative F model. But the outcome was the same that the population is depleted, and fishing mortality didn't appear to be the driving factor in what

was causing the stock to decline. That is where we started from for the 2016 stock assessment.

Our focus for the 2016 assessment was to continue to explore these methods to identify changes in natural mortality. We wanted to explore different modeling frameworks that were better capable of handling the assumptions about the stock, about the natural mortality, as well as the uncertainty that we had in the data that was going into the model. Also, because natural mortality is changing our reference points, which at the time were based on equilibrium assumptions that natural mortality wasn't changing; are not very appropriate in that condition.

We were looking for non-equilibrium type reference points. That was the focus for 2016. Moving into the models then, we had the regular cadre of data sources, we had commercial harvest and discard data, we had recreational harvest and discard data, we had indices of abundance from all of the state trawl surveys; as well as a fishery dependent index from the recreational fishery.

We also had the biological data from all of those different sources; lengths, weights, ages, and things like that; so nothing new there. Here are a couple of figures of the processed data that went into the model. The top left you can see is the harvest. It is very similar to the one that I showed before. You can see that back in the 1980s we had very high harvest, and that it has declined pretty steadily since then, both through regulations and declines in population. The bottom right figure shows the age composition of what we were harvesting. You can see early on that we had a lot of very small fish that were being harvested.

But as regulations went into effect, we actually had some stock rebuilding, and in the middle of the graph on the right hand side, you can see more, older fish that were showing up in the fishery; but they were also showing up in the

population as well. There was a bit of stock rebuilding during that period, and since then because of the increase in natural mortality, those older fish have all pretty much gone away.

Here are the indices. We had 8 adult indices and 7 young-of-year indices. There is a lot of noise there. We were seeing two general patterns in the adult indices. There was this apparent inshore pattern in what the abundance was looking like, and there was a different offshore pattern. That was going to make it a little difficult for the model to fit.

The young-of-year indices, we tried a new method. We had 7 different indices, and we used a method that was able to combine them all into a single coastwide composite young-of-year index, which is very helpful for the model. One of the terms of reference was to, like I said; see if we could figure out what was happening with natural mortality

We looked at a number of different methods to see if we could model that or at least track how it was changing. Food habits didn't give much information. We looked at time varying growth. That didn't help us very much either. We had 3 models that gave some level of support to this, and some level of corroboration that natural mortality had been changing over time.

The figure on the right shows 3 of these methods. Basically it looks like natural mortality has increased from about 0.15, 0.25 in that area up to around 1.0 in recent years. You can see that the scale varies and some are noisier than others, but the timing in that change is pretty coherent and it matches well with when we were seeing these declines in stock abundance.

One thing that we didn't look into, because the last Panel didn't really like it, was the predation competition. But I just did want to mention that the 2016 Panel suggested that we look into

it again, just in terms of how much predator biomass is out there and what's the potential for weakfish consumption. That is probably something we'll look into in the future.

We had three candidate models that we were looking at. We had the continuity run, the very simple relative F model that we used in 2009. We had a statistical catch-at-age model, the ASAP model, which is better than the VPA at handling uncertainty in the data. It is much more robust. Then we had a model that was developed by some researchers at Virginia Tech, I think you've all met Dr. Yan Jiao at Virginia Tech.

We've been working with VMRC to develop a model specific for weakfish. This was our preferred model, and it incorporates two very novel components. It estimates natural mortality internally, which is usually very hard to do. It also allows for spatial and temporal changes in stock abundance for each of the different indices. For example, if we see one of the indices, just say for example Virginia's index was going down. It is not necessarily because the stock is going down there; it is because the stock may have shifted to a different area, such as New Jersey or Rhode Island or something like that. It incorporates these two very novel components into the population model, which we thought was very helpful in identifying what was happening with the stock. That was our preferred model. The results are shown here. Very similar to some of the other models that we looked at, you can see for spawning stock biomass, at the beginning of the time series it was very high. It declined some, and then around the mid-1990s you can see it started to rebuild; I mentioned that before.

We had the stock rebuilding during the 1990s, and then by the late 1990s spawning stock biomass started to decline. Recruitment is shown in the lower right. Again, similar pattern in terms of the number of one-year old recruits coming into the fishery. Here is a plot of the

fishing mortality and the natural mortality together on one plot.

Fishing mortality started relatively high, around 0.6, declined during the early nineties; that allowed the stock to rebuild a little bit. But then as the stock started to decline, it crept up again, even though harvest was down, you can consider fishing mortality as sort of a ratio of what's being harvested, relative to what's out there.

As the stock started to go down, even though our harvest didn't go up, the harvest rate went up. Then the recent regulations in 2008, 2009, dropped the fishing mortality rate again. But you can see the red line is the natural mortality overlaid on top of the fishing mortality. You can see that certainly in recent years natural mortality has been a larger impact on the stock than fishing mortality.

Just for comparison with the other candidate models that we looked at. The top left shows the fishing mortality, and you can see there is some disagreement. Well, they all start in the same place, but there is some disagreement towards the middle of the time period about what's happening. The red line is the ASAP model, and that is assuming that natural mortality is constant, and so it is throwing all of that other mortality into fishing mortality.

If you look at the figure on the top right, that is total mortality, so that is fishing mortality and natural mortality combined. You can see that the two are much more similar during that period when natural mortality is increasing. The bottom left is SSB, same pattern just a different scale; and on the bottom right is recruitment.

Same pattern, pretty much the same scale. You can see that all of these models are showing very similar results. There is a little bit of scaling difference, and some differences in the assumptions that are going into the model. But

overall it is comforting that the results that we're seeing from all of these models are very similar.

Those are the models. That is sort of where we stand. Just the bottom left, the SSB that is sort of what we're looking at here; very low. It looks like it might be coming up a little bit in the last couple years with the recent regulations, but still very low relative to what we saw in the early time period.

Moving into reference points, after the 2009 assessment we don't have any fishing mortality reference points, because as I said as natural mortality is changing, your fishing mortality is sort of a moving target. We decided not to have fishing mortality reference points. Currently we have a spawning stock biomass target and threshold that are defined as the target is 30 percent of an unfished stock, and the threshold is 20 percent of an unfished stock. Because we have more evidence that natural mortality is changing, and those previous reference points assume that natural mortality is not changing. We were trying to take into account; we wanted to develop these reference points that took that into account.

They are based on not just fishing mortality, but fishing mortality and natural mortality. We looked at a range of different things, should we use a low natural mortality, a high natural mortality, a time varying natural mortality, and average natural mortality? What we came up with based on historical performance of the stock, and just what seemed reasonable for the productivity of the stock.

A lot of the reference points are based on an average natural mortality of  $M$  equals 0.3, so that is the time series average of the  $M$  that came out of Yan's model, the Bayesian model. We set a total mortality target of 30 percent of total mortality of 0.93, and a threshold that is 20 percent, but gives us 20 percent of an unfished stock. The  $Z$  20 percent is 1.36.

For the SSB, again the ones that we have are assuming a constant M, which we know isn't true. We proposed one, again using the time series average M of 0.43. The target is a little harder to define, so we use just a threshold. We set the threshold at 30 percent of the SSB, which gives us a threshold of 6,900 metric tons.

Then the way that we're proposing that these be used is not individually as a Z reference point and an SSB reference point, but use it as a two-stage evaluation. The first thing we need to do is look at SSB. If our SSB is below the SSB threshold, whether it is from fishing or natural mortality or the combination of the two, regardless of the driver if SSB is below that threshold, we do nothing. We have to keep fishing mortality low.

If the SSB is above that threshold, then we might have some room to increase our fishing mortality, or to allow some fishery. If Z is above the threshold, if our total mortality is above the total mortality threshold, we can't do anything. Then total mortality is too high on this stock, and fishing mortality should be constrained.

If total mortality is somewhere between the target and the threshold, then we could possibly allow some limited fishery to occur. If Z, if our total mortality is below the total mortality target, then we could start looking again at SPR reference points F-SPR reference points; so taking the natural mortality out of the reference points.

We've got a two-stage control rule here, which is different than what we use for most species. Given those two reference points and the outputs from the model, here is the stock status. On the top left we've got mortality, so that is total mortality. The dashed line is our target, and the solid line is our threshold.

You can see that for most of the last decade and half, we've been above the threshold, so our total mortality has been too high. Then the last

year we fell between the target and the threshold, which is a good sign that things might be coming down, but you can see in the lower right that we're still very far below our SSB threshold. You remember that the recommendation from the Technical Committee is if SSB is below the threshold, then we shouldn't be doing anything to open up the fishery. The outcome from all this, the stock status is SSB is below the threshold, so the stock is depleted. Again, it appears that it is not fishing mortality necessarily that is driving the stock that low. Total mortality in the terminal year is somewhere between the target and the threshold, but it is only in that terminal year.

The recommendation from the Technical Committee is that these reference points need to be exceeded either Z, below the threshold, or SSB above the threshold for at least two consecutive years before any management action is taken, just because of the variability in some of these parameters. They bounce around a bit. Just for an extra level of caution, we're recommending two consecutive years before any management action is considered. That is my presentation, Mr. Chairman. I'll take any questions.

CHAIRMAN ALLEN: Thank you for that very uplifting assessment of the weakfish stock, Jeff.

MR. BRUST: My pleasure.

CHAIRMAN ALLEN: Before I get Pat up here to give the Peer Review summary, I don't really want to take too many questions at this time, but any clarifications you may need from Jeff.

MR. THOMPAS FOTE: Jeff, last December off Island Beach State Park there were schools of weakfish and they were getting chopped up by bluefish and swallowed by striped bass. I could basically do pictures of what the bluefish were spitting out. We weren't doing gut samples, because most of the striped bass were all released.

But would that be helpful to you to show pictures with the size of the weakfish? These were about 7 inch weakfish being chopped up. I that day had 20 bluefish in a row, and they either spit up a head or a tail, so would you want pictures of that to help and basically prove that they are basically doing that?

MR. BRUST: I would love to see the pictures. It is one of those things. We know they are getting eaten. Is it to the point that it is controlling the stock? We've seen weakfish in striped bass stomachs; we've seen weakfish in bluefish stomachs. We know they are getting eaten; it is just to what extent are they getting eaten?

It is also sort of a ratio thing, are there so many predators out there that it doesn't even take that much? One of the analyses that we did for the last assessment said that if each predator out there ate less than 10 or 12 pounds of weakfish in a year, it would be enough to drive the stock. Whether that is real or not, I don't know.

Yes, it would be useful to have pictures like this, but I think there are still folks who don't necessarily agree that natural mortality is changing, so I'm going to call them the naysayers. What they want is a scientific study that shows how much. Empirical, quantitative evidence of how much is being consumed. This anecdotal type of information is very helpful. We have several figures like that. But the more we get, it just bolsters the case.

CHAIRMAN ALLEN: Follow up, Tom?

MR. FOTE: I would have called it episodic event, because it sounds good. But anyway, there were so many bluefish, so many weakfish all there. I thought there were schools of bunker instead I started seeing them spit them up. It was just amazing how many they were ripping through, and these bluefish were only two

pounds, basically eating 7 inch weakfish and chopping the heck out of them.

MR. ROB O'REILLY: I just wanted to ask Jeff to go over again the recommendation and perhaps maybe we talk about it, but when that starts on the TC recommendation about Z and SSB. Would you go over that one more time?

MR. BRUST: The reference points themselves or just the recommendation on where we stand right now?

MR. O'REILLY: The latter, your last statement up there on the slide.

MR. BRUST: This one? Sorry, just for clarification, this one up here, Rob?

MR. O'REILLY: I can't read that far, but on my screen it says TC recommends Z below.

MR. BRUST: Oh, okay, all right just that last statement. If we go up one more slide, you can see that the total mortality value is between the target and the threshold. Now, if for example, this is not the case. But if the SSB was above the SSB threshold, we only have one year where that Z value is between the target and the threshold.

Because there is variability in those estimates, and potential for some level of retrospective pattern as well, we're recommending that we need at least two years where the mortality value is at least below the threshold; just to account for the uncertainty in the estimation procedure. Does that answer your question?

CHAIRMAN ALLEN: Follow up, Rob?

MR. O'REILLY: Yes that does and I guess now I'm wondering, the Peer Review recommendation at first seemed to say stay away from the SSB as a biological reference point. It came back that well no; you can have that as part of the management, but don't rely

on it as a biological reference point. Do I have that right that the Z biological reference point is really the main one that we're looking at, and SSB is a; I wouldn't call it secondary, but it is sort of a reference force. How did that finally turn out?

CHAIRMAN ALLEN: I think we're going to get to that in Pat's report, Rob, so if you could just hold off on that.

MR. O'REILLY: Yes.

MR. JOHN CLARK: Thank you for this very impressive piece of work, Jeff, great presentation. I'll want to get back to natural predation later, but I understand we're going to hold that. I just had a question about the juvenile index you showed. It looked like with the composite you had for all the states combined that the JI has been fairly consistent for the past, even during this whole time of the increasing natural mortality; even showing an uptick there at the end. Is that what you're seeing there with it?

MR. BRUST: For the most part yes it doesn't show as strong a pattern as the model output does. But it is hard to see on this figure, because of that one value that goes up to ten there. But what actually happens is that it increased, it leveled off, and then it has decreased over the last decade, decade and a half; which sort of mimics what the model was showing us. It is not as steep a decline as the model is indicating, but yes, in the last couple years it does look like it is bouncing back up a little bit.

MR. CLARK: But it hasn't shown the type of crash we've seen in the overall stock. I mean it's been amazing that they've been able to maintain this level of reproduction.

MR. BRUST: Correct. Yes, we've all, the Technical Committee; we pondered that for quite a while.

CHAIRMAN ALLEN: Yes, ponder for a long time. I have Wilson and then Robert.

DR. WILSON LANEY: John asked part of my question, which was about the composite young-of-year index. But I know one of your criticisms for an earlier assessment, Jeff, was the discard information. Did we have better discard estimates this time for the South Atlantic shrimp fishery in particular? I ask that in the context of the South Atlantic Fishery Management Council having worked with the Commission to require bycatch reduction devices in trawls.

I'm just wondering if that is still a source of mortality that should be of concern to us, relative to those juveniles. We're getting robust reproduction; it looks like, but if we're still losing a lot of them in the South Atlantic shrimp fishery, maybe that's something we could look at from a management perspective.

MR. BRUST: We did look at discards for a number of different sources. We redid the adult mortality from the Northeast Fishery Observer Program. We did look at North Carolina specific; we did look at the Southeast Shrimp Trawl Fishery. There was still some uncertainty in the data there. There wasn't as much data there as we hoped. If I remember this correctly, we did use it as a sensitivity run. My recollection is it did not have much impact at all on the results. Is that correct, Katie? Katie did the analysis.

MS. KATIE DREW: Yes, so I think when we looked at the shrimp trawl data, which again is, in the southeast at least, is not as robust as we would like to see, in terms of observer coverage of those fisheries. The majority of those fisheries were the Age 0, or the majority of the fish that were caught were the Age 0 young-of-year, which are not included in the model. There is definitely some kind of disconnect going on between what we see in the juvenile index, and then where we start the model, in



terms of what's happening to that Age 0 class, so that could be contributing.

But the data aren't really strong enough for us to be able to come up with a good estimate of the mortality to those Age 0s. Then I think one of the recommendations of the Panel was, well I guess we can get into that. But to improve the discard mortality estimation, but also to consider trying to model some of what's happening in actually that Age 0, which is very difficult to get a handle on.

CHAIRMAN ALLEN: Wilson, you had a follow up?

DR. LANEY: Katie, if there is a lot of Age 0, if we could improve those discard estimates for the South Atlantic, and if there is a biological connection between the South Atlantic and the rest of the range, i.e. if a lot of the reproduction of the whole coastwide stock is coming from those South Atlantic estuaries. Could that be a possible explanation for some of the increased natural mortality rate that we're observing?

MS. DREW: Potentially, but I think what you have to also keep in mind is so that Age 0, for any species is a rough year for those guys, in terms of making it to the next stage of actually recruiting to the fishery and the adult population. We are seeing, and it is not like they get past that Age 0 stage; and then everything is great.

They do come in as Age 1s, Age 2s. But they just can't make it any further. Whatever that mortality is that is acting on them, it is not only on the Age 0s; it is also on the older fish as well. The discard mortality may be a component of that. But it seems like there is also additional mortality that's coming in on those older fish, and it's not just a function of what's happening in that Age 0 year of their life.

MR. ROBERT H. BOYLES, JR.: Jeff, thank you for a great presentation, a lot of information and

very helpful. Speaking of maybe something where Wilson was going. Was there not a term of reference about looking at what's going on in the South Atlantic? Because anecdotally and certainly the data that we see, there just appears to be a disconnect between stock status and what we're seeing, maybe south of Hatteras. Was that a term of reference for the assessment?

MR. BRUST: There was no regional term of reference for this assessment. For the 2009 assessment there was, and we did look at it as best as we could. There is some, I'm trying to recall seven years ago. As I recall there is some evidence that there might be some stock structure there, but the ways the fisheries operate and the way we collect our data; we don't have the information to separate the stock into two separate assessments.

Now, I'll also continue, because even though it wasn't a term of reference, it continues to be a point of concern for this board; and so we were looking at ways to see if there were different patterns in life history traits and things like that. One thing that we did was to try to look at growth over time by region, by state, by survey; things like that.

There just wasn't enough information in those data to discern anything. It is not that we're ignoring the fact. If we want to go that route, we would need to start collecting data in a different way that could support an assessment in that fashion.

MR. JASON McNAMEE: I am going to jump back to the line that Rob O'Reilly was kind of following, but first I'll say Jeff, you guys did an amazing job on this assessment. The care that you guys used in the treatment of all the data inputs are really incredible, the discard analysis that you did.

All that stuff was really impressive, and gave me a lot of good ideas. I think you guys did a lot of

unique and interesting things, so nice job and my complements to the working group. I was thinking about this, you guys chose this metric of two years, and I'm wondering, I understand the reasoning behind it. My question is, so the mortality threshold and target. They're pretty close together, at least on the chart. There is not a lot of space there. Did you guys test other amalgamation of other years, like three years, four years, something like that; and was it based on the fact that the variability that currently exists in a year-to-year estimate of that. Does it have a tendency to jump up and down over those, the threshold and the target?

MR. BRUST: The two years wasn't tested. It was just looking at the variability in the data, it was in my recollection it was more of an uncertainty. Let's be safe with this stock, it is really not doing well currently. Let's not, hey if we get one year let's not open this fishery up right away. There wasn't any quantitative method that we selected those two years. It was just sort of a "let's be safe" kind of thing. I don't know if that answers your question.

MR. McNAMEE: Yes, it does. That was what I was trying to get a sense of, if it was some analytical process.

MR. BRUST: Not that I recall.

MR. McNAMEE: The reasoning is sound; I just wanted to check on that.

CHAIRMAN ALLEN: Great questions, I think I'm going to turn it over to Pat now to give the Peer Review Summary, and then we'll take it from there. Rob, you had something?

MR. O'REILLY: Yes, I just wanted to comment if I may on two things, very quickly. One, the shrimp discards. When the croaker assessment of 2006, I think it was, was being conducted. I know that John Foster, who is with NMFS now, went to the earth's end to try and get this discard information for croaker.

I've heard a couple comments about; we really need to improve that. I don't know how on earth that is going to be improved, but it does seem to me that with the bycatch reduction devices that were put in place in 1995, 1996 thereabout, that some of those earlier years could be, if you're doing a sensitivity analysis you should factor in the initiation of those bycatch reduction devices.

I mean that might be one thing you could look at. Just the idea that we can keep saying we can make something better. I think it's kind of tough on that end of it, and I just wanted to mention that. The other thing I wanted to mention about false hopes is that Robert's comment about the sort of the stock composition and south of Hatteras. There are certainly some older studies that dealt with Maristics, you know Shepherd and Grimes was one, and Scholes from VIMS was another one back in the early nineties that pointed to stock differences as you go up the coast.

Maybe some of that is worth just kind of looking at. I know that when Mark Gibson was on a Technical Committee, and even on the board; he would bring up the idea that there were studies from the past that indicated stock separation as well. I think we're at a point where even though everyone has done a tremendous amount of effort here, and very impressive to me to watch that at least one day, through the peer review.

I think we need to start looking in some other directions here, and I think Jeff, your comment about we need to collect differently, essentially, and we know we aren't even collecting that many fish. We really have to have sort of, as we go forward I think we really have to have the good old eyes opened wide, and start to say, well what really can we practically work with. We've had a lot of years where this stock has been problematic. But at the same time, I think we've made some strides forward, and I certainly congratulate everyone who worked on

this last round. I just wanted to make those comments.

#### **PEER REVIEW PANEL REPORT**

CHAIRMAN ALLEN: I am going to turn it over to Pat now for the Peer Review.

MR. PAT CAMPFIELD: Pat Campfield; giving the review presentation on behalf of the Chair of the Review Panel. Please don't ask me to sing the presentation. I cannot compete with our neighbors next door. The quick overview of the stock assessment process, the Weakfish Stock Assessment Subcommittee, and TC developed the new coastwide assessment.

The Review Panel consisted of three reviewers, the Chair, plus two additional technical reviewers. In aggregate they had expertise in population dynamics, stock assessment modeling statistics, and weakfish biology. The focus of their review was only on the science, on the data inputs, and the overall quality of the assessment.

The major products from the assessment are the Assessment Report, and Review Panel Report, which you have received in your materials. Following the meeting week, we will provide an Assessment Overview for the public that will be available on our website. The Review Panel was comprised of Dr. Pat Sullivan, from Cornell, as the Chair, Jeff Buckel, from North Carolina State University, and John Deroba from the Northeast Fisheries Science Center and Woods Hole.

The Review Workshop took place about five weeks ago in Virginia Beach. The Review Panel's overall findings is the stock assessment passed peer review, and agreed with the assessment's conclusion that the stock is depleted, overfishing was not occurring, and 2014 the terminal year, and that total mortality is below the threshold, but above the target.

Again, over all, the Panel finds the stock assessment acceptable for management use. Next I'm going to go through each term of reference for the review, and highlight the Panel's major conclusions and recommendations for assessments moving forward. Term of Reference 1, was focused on evaluating the data that was considered and used in the assessment.

Their overall conclusions are that again, the data were well explored, although there remain several sources of bias in removal estimates, also that the MRIP statistics continue to be challenging for use as an abundance index. But the Assessment Team used MRIP appropriately; and also that there may be density dependence operating on the young-of-the-year fish.

Overall the standardization methods for the indices that went into the assessment were adequate, well documented, and appropriate. Panel recommendations regarding weakfish assessment data are to continue to evaluate quality of removal estimates, and the recreational indices of abundance, and to examine the sensitivity of model runs that include, as well as exclude, the Age 0 inputs, given that apparent disconnect between trends and young-of-year and older age classes.

The second term of reference was to evaluate evidence for constant or recent changes in natural mortality, predator/prey dynamics, productivity, and discard mortality. The Panel's overall conclusions are that although time varying M is difficult to estimate, the dramatic changes, decreases, and weakfish biomass over time, and the low levels of harvest recently may allow natural mortality estimation to be possible; which that is not necessarily true for many other stocks. Also due to improvements or corrections in the discard analyses that Jeff described, this newest assessment there is less evidence for discard mortality, as the primary cause for recent decreases in weakfish abundance. The Panel also reiterated, which

we all know that there are clear cycles of weakfish abundance over time. However, the underlying causes remain unknown. There are probably a number of factors. Panel recommendations regarding natural mortality, productivity, and discard mortality are that factors influencing the estimability of time varying M should continue to be monitored and addressed.

The sensitivity of time varying natural mortality estimates to constraints composed by the Bayesian model, priors should also be explored further. They thought the Assessment Team did a sufficient job. But there are other options for setting priors in the Bayesian model, which may allow further exploration of time varying M, also, to examine a correlative or mechanistic link between weakfish and natural mortality, and predict variables when developing weakfish population projections.

For example, one suspect is marine mammals, dolphins eating a lot of weakfish; you need more diet composition studies from marine mammals. The third term of reference, evaluate the methods and models used in the assessment. The Panel's overall conclusion is that the Bayesian statistical catch at age model is appropriate and justified for use in making management decisions, with some caveats to be considered, as outlined in the Review Panel's report.

The external evidence for temporal changes in natural mortality was inconclusive. Those parameter estimates may be confounded by other processes, and that the spatial asynchrony or disconnect in population density to account for inconsistent trends could also be confounded by other processes.

The Panel's recommendations moving forward on models was that these Bayesian models can over fit the data through inclusion of time bearing parameters. Exercise caution when interpreting the results. The biological

reference points, based on historical performance, would need updating later as natural mortality and stock productivity change in the future.

Also that using historical recruitment indices to create projections will need to be reexamined if the stock productivity changes. Finally under the plus group, minimum age definition, the Review Panel recommends the sensitivity analysis in future assessments to evaluate where you set that plus group minimum age; and the impacts on overall model results.

Term of Reference 4 is to evaluate the sensitivity and retrospective analyses performed to determine model stability. The overall conclusions are that sensitivity to a range of data inputs was well addressed and understood in the assessment. Given the model structure the outcomes were robust and reliable.

Also to note that remaining retrospective patterns observed were relatively small, and not a cause for concern relative to management action. Moving forward the panel recommends continuing to do retrospective analyses, even though the absence of a large retrospective pattern in this assessment is not a cause for concern.

It does not necessarily indicate the model is fully accurate or appropriate. Term of Reference 5 was to evaluate the uncertainty as it was characterized in the assessment. Overall conclusions from the panel are that the preferred Bayesian M4 age structured assessment model is preferred by both the Technical Committee and the Review Panel. It appropriately incorporates the uncertainty present at several levels through the use of the Bayesian hierarchical modeling, also that the MCMC algorithm used in the estimation of Bayesian population modeling, facilitates probabilistic predictions of key model outputs;

including estimates of whether we are above or below critical thresholds.

Panel recommendations regarding characterization of uncertainty, are the use of the uniform distribution as an uninformative prior throughout the Bayesian hierarchical model, could be looked at in different ways or alternative approaches, as outlined in this paper by Gelman. Again, the panel didn't disagree with what the Assessment Team did, but there may be other ways to set your priors in Bayesian models; I'll leave it at that.

Term of Reference 6, regarding a minority report, there was no minority report submitted; so we'll skip through that. Term of Reference 7, recommend best estimates of stock biomass abundance and exploitation from the assessment. Again, the panel concluded that the Bayesian M4 age structure assessment model and the spawning biomass per recruit reference points, under the M of 0.43, provide the best estimates for determining stock biomass abundance and exploitation for use in management.

Panel recommendations moving forward, in the future if this stock shows signs of recovery, alternative analytical approaches, as well as possibly a management strategy evaluation, should be used for determining updated exploitation rates as capacity for stock growth will likely change; due to changes in mortality or other drivers of production.

The Bayesian M4 assessment model should continue to be applied, as long as the data inputs and biological processes are appropriately updated. Term of Reference 8 evaluates the choice of reference points and methods used to estimate them, and recommend stock status determination. It is challenging, it is difficult to determine a fixed set of reference points for a population that does not exhibit equilibrium; as Jeff described as well, because there are unknown drivers for

changes in natural mortality and stock production.

They are highly variable. The Panel agreed though that the reference points put forward by the Technical Committee to establish a practical control rule are appropriate and should be used for management. An additional Panel recommendation on Term 8, the yield per recruit SPR reference points derived from this assessment with M at 0.43, should be updated if and when stock productivity appears to change.

The last term of reference was to review the research recommendations, comment on those put forward by the TC, as well as suggest possible new research recommendations. Under the category of the current research recommendations, the only suggested changes that the Panel had, was regarding weakfish mortality.

To try to better estimate weakfish mortality with tagging studies or alternative models, to compare with the results of the Bayesian models. Also, as we continue to evaluate predation of weakfish, again expand the suite of predators and their diet compositions that we're looking at; again marine mammals were something we haven't necessarily looked at before, and they want to in the future. In the context of the commissions multispecies models, currently they incorporate weakfish only as a predator, but also look at different angles or perspectives where we could consider weakfish, especially the younger year classes, as prey. We have monitored weakfish diets with data here and there. But there has been a shortage or a lack of weakfish diet information within the estuaries. I think Chesapeake Bay may be the best source, with the other estuaries there is not much information. Under the category of the Review Panel's new research recommendations, these are heavy on the modeling side, so I'll just touch on these quickly.

Conduct simulations in a number of different fashions, but with a special note on examining the Z-based control rules. The second one is to conduct a meta-analysis of all factors influencing natural mortality, to see if the aggregate effect shows stronger statistical likelihood of occurrence than when evaluating each individual factor on its own.

The next one is more of a future assessment process recommendation. The Bayesian modeling code is in fairly unique software, and so they've recommended, and we've talked with Virginia Tech about transferring that to a more widely used statistical platform; which we think will happen.

The next recommendation, conduct a simulation estimation analysis to explore the estimability of time varying trends and natural mortality, and to continue to improve the process for organizing and collecting data; in order to feed the assessments and do so in a timely manner. To build on what Jason said, the Panel really commended the Assessment Team, the Technical Committee, and how they prepared this assessment, including very thorough data collection. I think we'll stop here with the last slide.

Again, the Review Panel's overall findings, they concluded the Bayesian M4 catch-at-age model is the best model available for conducting assessment at this time, and suitable for determining the status of the stock. Again, the stock is depleted, overfishing not occurring in 2014. Total mortality is between the target and threshold. Again, consistent with the Technical Committee's recommendation about future assessments, the Review Panel agreed with an assessment update in two years, in 2018, and a benchmark in 2021. I think that's all we have.

CHAIRMAN ALLEN: I'll open it up to questions for Pat and/or Jeff, and once we get going here I would like to hopefully get a motion to accept

both of the reports as you heard them here today.

DR. LANEY: Rob's comments earlier reminded me; if I remember right, Rob, help me out here. I thought I had the paper on my hard drive, but I can't find it. But Dr. Cynthia Jones, I believe, had done some otolith microchemistry work at one point in time that seemed, she felt, suggested that weakfish were possibly homing to their natal estuaries.

I don't know whether she followed up on that and did any more work on that or not. But if that is the case that could certainly have some implications here; that might warrant further exploration. I doubt we have the data to really get into that. The other thing I wanted to let Jeff and the Stock Assessment Committee know.

There was a paper, and I have that one in front of me, Sandra Diamond, Lindsay Cowell, and Larry Crowder's paper on population effects of shrimp trawl bycatch on the Atlantic croaker. Have you all seen that one? Are you familiar with that one at all? I'll just go ahead and say they concluded that the bycatch mortality on late juveniles was not the most important factor affecting either population of Atlantic croaker. They looked at both Gulf and South Atlantic. But they did say bycatch mortality did have a large, negative impact on population growth rates, and reducing late juvenile or adult mortality by about 35 percent in the Gulf or 5 percent in the Atlantic should reverse population declines. I don't know whether anybody has followed up on their advice or not. But I wondered if there was any applicability of that to our situation with weakfish in the South Atlantic.

MS. DREW: We certainly saw the Diamond paper, at least when we were doing the croaker assessment in 2009. The rates of croaker bycatch are much higher than those of weakfish bycatch, so croaker, you get more croaker than

you get shrimp in some of these observer programs. While weakfish is still up at the top of the list in terms of bycatch, the overall rates of weakfish bycatch in these trawls is not nearly as high as it is for croaker.

I would expect that while it certainly may have some effect on population growth, it probably would not be as severe as it is for croaker; which appears to be extremely vulnerable. Of course you have to also consider like the timeframe in terms of, how abundant were these populations when they were doing these studies? But it is certainly something we can consider, but it is probably not as large a factor for weakfish as it is for croaker.

MR. O'REILLY: If I may just quickly respond to Wilson. The study was really something, Dr. Simon Thorrold, who is now with Woods Hole Oceanographic Institute, had done some of this work earlier. I always think of it as looking for divalent ion concentration in the fish, because that's really the microchemistry part of it.

He had done that with cod, I believe, in the Scotian Shelf, and then Dr. Jones worked with him. They did find there was homing by weakfish, but the situation is they looked at nursery areas, and then they looked, I think two years later. You don't have the full population, as far as the adults, what happens later on and Wilk, even back in 1979, indicated the movements are more northerly with the larger fish.

I think everyone kind of wonders what happens after Age 2 with those fish. That is what I know, but the other thing I wanted to mention. I didn't say it before, but I'll say it again. I think Robert Boyles question is pretty good. I think there is something there for all of us to think about, with stock dynamics.

The other part is the only genetic study was the one done by Graves et al back in 1990, I think. That is really what made the unit stock. That

was mitochondrial DNA. As we all know now, that is not the top of the line way to do stock discrimination. You know there is something there as well before we start tagging and doing everything else. It is all about cost.

The other factor I wanted to talk about that I liked from the approach here, from the peer review that I saw, was the idea of this meta-analysis, because I'm familiar back with the previous assessment that I think ended in 2009. The situation was there was linkage through the Henderson-Steele model with predators.

Certainly striped bass and inferences about spiny dogfish, but I don't recall anyone talking about cannibalism. Weakfish are highly cannibalistic, compared to a lot of other fin fish. There are other things that have occurred with weakfish in the past. I don't know whether they go on now, because of lack of a stock to really look at these things, but fin rot was really sort of a real problem in New Jersey back in the eighties, and was undergoing a lot of study at Sandy Hook, with the National Marine Fisheries. I thought that was a great suggestion to sort of look at everything that's involved, and move forward from there.

Then the last thing I wanted to mention, it is a comment. There were no reference points after 2009. I mean that was the real dilemma, and everyone realizes that because this new assessment has been done that weakfish still are depleted. But I feel very good that there seems, to me at least, to be some security blanket here with what has occurred by the work of everyone who worked on this assessment.

We have something at least that we can build from, and I think that's really important. We didn't have that before. We really didn't have even a reference point, so that's really very strategic. I want to thank everyone, especially Dr. Jiao as well, but you know everyone involved with this. Thank you.

CHAIRMAN ALLEN: Good points, Rob.

MR. CLARK: I would like to get back to the natural mortality predation point. I hope I don't sound too unhinged by the end of this. I was pleased to see that the Review Panel did recommend expanding the suite of predators on weakfish, to look at what is happening there. In the assessment itself I saw that studying predation on weakfish has only been a moderate goal, in the goal section of that.

It was put down there in the moderates. I know Jeff mentioned that there is still some skepticism about the impacts of predation on the weakfish population. I think your model itself showed that the real increase in natural mortality began in the late nineties, correct? It was around '97 that it really started taking off there.

That really fits in; just with everything we've seen in Delaware Bay. Our commercial and recreational catches in the Bay, between '98 and 2008, both decreased by 99 percent. This is before we put more controls into place there. We've been seeing, as you showed with the juvenile indices. We're still getting reproduction; it's coming from the one year olds.

We still a bunch of those. We tried tagging them, this started in about 2007; thinking that we would get an idea of what was happening to these small weakfish, why they weren't coming back as bigger fish. Knowing that weakfish do shed tags pretty easily, we did some tag trials. We actually kept t-bar tags in weakfish in tanks for over a year; this was over at Delaware State.

The shedding rate was pretty high, it was about 30 percent. But we figured we would still get some returns, and we tagged probably about 1,000 weakfish over the time. We didn't get a single return. We're still just not seeing anything coming back from these one year olds we were tagging. I thought well, maybe it was

the shedding, maybe those made them more vulnerable to predation.

But I am sure some others in here are aware that a PhD student at North Carolina State, Jacob Krause, has been putting telemetry tags in weakfish off North Carolina. He came up to Delaware last summer, to tag some weakfish in Delaware Bay. We had a heck of a time getting him. He was only looking to tag 30 of them, but we could only come up with 18 that were in the size range. He needed at least a 13 inch weakfish to tag. He has not gotten a single ping from any of those weakfish that were tagged in lower Delaware Bay last summer. As you know, we probably have more receivers; Delaware Bay is probably one of the best covered areas on the coast, in terms of telemetry receivers. That leads me to my unhinged part, is that this is all anecdotal. I just seem to see a lot more bottlenose dolphins, particularly around the mouth of Delaware Bay.

You can't go down to Cape Henlopen without seeing huge pods of dolphins just working the area. I am getting to the point where I stand onshore yelling at them to go away, leave the weakfish alone. Anyhow, I know it would be really difficult to do a study. There have been some studies done of dead dolphins down off of Carolina, and they've looked and found weakfish as being a major prey item there.

I don't know how we would do it, live dolphins; I know it's a sensitive subject. But as I said, I think there are things; there are a lot of predators out there that may have increased their populations over the past decade or so. I think it is something that we really do need to look at, because we also did, on the subject of whether weakfish are getting enough to eat.

We have been looking at the condition factor, and we have been looking at stomach contents of these one year olds we've been getting. There is no problem there. These weakfish are getting plenty to eat in Delaware Bay. They are



healthy, their condition factor aside, they have belly fat in them. Something is getting to them. They are just not coming back. Sorry for ranting on like that but I just want to let you know.

CHAIRMAN ALLEN: Not too unhinged, John.

MR. McNAMEE: I had a question. In the reviewer comments they brought up this discussion on the uninformative priors. It is just sort of a general comment that they make. I'm not sure if it goes to Katie, Jeff, or you, Pat. I'm just wondering if the discussion was a little more in depth. My concern is there were these uniform priors placed on a number of the parameters.

They mentioned overweighting the tails, and my concern is that if there was a discussion on how that uncertainty now, which is probably expanded because of that. If that propagates through into the calculation of the biological reference points, the terminal estimates, any of that stuff. Even if it is the case, I don't think it's a big problem now. But it is something that we should consider. But I'm mostly interested in if that was an item of discussion, so that we can get a sense of if we're looking at inflated uncertainty at this point, or not.

MR. BRUST: I'll try. I certainly can say with confidence that I didn't understand all of what was being said at the review. But Dr. Sullivan and Dr. Jiao had a very, it wasn't heated, but it was an in depth discussion on the priors. I guess the priors that Yan was using, she was using uniform priors, which appear uninformative but in long space or whatever, they become informative.

Dr. Sullivan was suggesting moving from, rather than variance, use one over the variance. There is a more recent paper than the one Dr. Jiao was using, by the same author, it was Gelman, I think in 2011 or so; rescinded basically what he said in a previous paper, and Yan was using the older one and Pat was suggesting using the

newer one. There was in depth discussion. I don't think it got to the point of whether we have too much uncertainty in the estimates that we're getting from the model. It was just sort of a research recommendation, improved or more recent recommendations; in terms of how to parameterize these models. It didn't get down to, how did it affect the results? That was more of a research recommendation. The next time you do this, check it. But it was more than just, you should try this. There were two or three times for a half an hour at a time, they went back and forth on this, so there was some good discussion on it.

MR. CAMPFIELD: The only thing that I would add, not being a Bayesian modeler, but in talking with Pat Sullivan, and to answer your question about how pervasive it may be throughout the model estimates. His concern was mostly around the estimates of natural mortality that you get out of it.

With the uniform distribution you may be constraining the higher magnitude natural mortality that you may see with Gaussian distribution and that the uniform distribution may be, I think not the most accurate way to estimate natural mortality. But the overall magnitude of it, I think they were comfortable with. As Jeff said, exploring that different distribution in future assessment modeling is recommended. But they were okay with how they went forth here.

MR. FOTE: Yes, I was sitting here just thinking about what Roy was talking about bottlenose dolphins. I'm looking at pictures in Vonnegut Bay in December of 25 seals sitting on a little Sedge Island in there. I've been there since '79 taking boats out, have never seen anything like that before.

When I used to go to Cape Cod in the seventies and fish a lot in Martha's Vineyard and along the Cape, I didn't see a seal. I went back 15 years later; it was like the beach was covered

with them. Do we have a report on the growth of seal and dolphin populations? Is NOAA basically monitoring that?

Maybe we need to factor that into the equations when you start dealing with natural mortality. I mean I know the whales are up. We see a lot more whales, we see them basically inshore eating menhaden, and this year they're eating Atlantic herring along the beach, because for some strange reason had a lot of Atlantic herring right on the surf. I was just curious.

CHAIRMAN ALLEN: We can have someone look into that, Tom. Nichola.

MS. NICHOLA MESERVE: Great work by the Stock Assessment and Technical Committees. I had a question about one of the Peer Review Panel slides that there was a comment about the use of the MRIP as an index of abundance. Was that a comment specific to weakfish, because of the rate at which they're targeted or encountered at this point, or could that be interpreted as a more wide ranging comments on the use of MRIP as an index? I apologize if this was already addressed. But I'm looking for further clarification on the Review Panel's recommendation that the SSB reference point be used outside of the control rule.

MR. BRUST: On the MRIP index, it is more of the latter. It is the general concern that changes in catchability over time, and recreational fishing may in some cases overestimate the number of, in this case weakfish that are being caught or harvested. Regarding the SSB versus Z reference points, I think they recommended caution with SSB, because it is so difficult to estimate; and to use the Zs as the primary reference point, but continue to monitor SSB, to see if it agrees.

**MR. ADAM NOWALSKY: Mr. Chairman, I would like to make a motion to accept the**

**stock assessment and the peer review for management use.**

CHAIRMAN ALLEN: Seconded by John Clark. We have a motion on the board to approve the 2016 Weakfish Benchmark Assessment and Peer Review Reports for management use. Motion by Mr. Nowalsky, seconded by Mr. Clark, is there any discussion on the motion; any objection to the motion? **Seeing none; the motion passes.** Emerson, you had something?

MR. EMERSON C. HASBROUCK: Yes, I had a question. But I don't know if we've moved beyond any discussion about the assessment. Is it appropriate or not appropriate to ask a question at this time?

#### **DISCUSSION OF NEXT STEPS FOR WEAKFISH MANAGEMENT**

CHAIRMAN ALLEN: Well, since we got everything approved, I think it is just time to open up the floor to a discussion on what we're going to do for management use here in the future. I will let you start that off.

MR. HASBROUCK: I don't have a suggestion right now. That wasn't the intent of me raising my hand. I'll yield the floor right now.

CHAIRMAN ALLEN: Sounds good. Anybody want to start this off? Jay.

MR. McNAMEE: We've approved the assessment and the peer review for management use, so within both of those documents there is a suggestion on kind of a new and unique way to manage the biological reference points. I guess my question is there is some action needed, I'm not sure if it is an addendum.

I think, because I don't think that is how we're managing weakfish now. I guess I am asking the Chair a question as to whether it's an addendum or an amendment that is needed to

begin to set up the options to accept those reference points for management use specifically.

CHAIRMAN ALLEN: There have been cases in the past, especially menhaden, where we've accepted a peer reviewed report and assessment, and had new reference points but did not have to go through an addendum or amendment process to use those for the management in the short term. I think we're working on Amendment III now of menhaden, and that would have those issues in there.

There is precedent that we don't have to go ahead right now and do an addendum or an amendment, and somebody can correct me if I'm wrong on that. But I'm not sure that the board, maybe we just need to have a little bit of a discussion to see how we want to go about that. Next I had Rob.

MR. O'REILLY: Jay, I think your comment is something that I was talking about earlier on. I think we should talk about it at another meeting, as far as what exactly we're being guided by, because my understanding is the recommendation; at least from the peer review was to look at Z really as the biological reference point. Not abandon an SSB or any type of biomass type of reference point, but to have that as sort of guidance. I think we need to have a discussion about all that. I don't know how that folds into an addendum, necessarily. We know for menhaden, for example, we've heard a number of times, and again just the other day that the board accepted that for management use, what came out of the stock assessment; but in essence there was no formal addendum approach for that. I think this certainly is something that needs discussion. Mr. Chairman, I also wanted to suggest that part of what I heard at the Peer Review on the one day I was there is that – and literally in these words; “that we have sort of an uptick, but let's not get carried away until we see more evidence.” I think that is where we stand. One

of the things that I recall is with Amendment II, which goes back a few years.

We had some different types of indicators, health indicators of the stock or guidelines, and one of them I remember clearly was to look at the age composition. You know numbers by age, and to sort of track that until such time that it mirrored something along the 1989 to 1995 composite. I think those are the types of things that the management board is going to need, because we haven't had a reference point for eight years or so, at least.

We weren't really sure about the previous, I think F30 and F20 reference points that we had, or MSP30 and 20. I'm digging back a little bit. But we need some fortification. We need some things at the board that everyone can look at and say okay, I see we are making progress. There have been some bad missteps, and they have occurred with the management back in 2007.

You know the idea that we would set a cap on a harvest amount that we were already in the big swoon. I mean I think from 2002 to 2003, there was a 50 percent decline in the harvest overall, and yet we were setting a sort of a cap that we're not going to take more than this, and if we do we'll take action. That was a belated process, for those of you who were involved, and an extended process.

I mean that was over several meetings, hand wringing. It started out with reduce F by up to 40 percent. It was all sorts of convolutions. Now I suggest that we hold the line. I am going to put it that straightforward. We've got the bycatch going of 100 pounds. We have the one fish recreational.

It is time, now that we have at least a pretty good foundation for our guidance on the biological reference point for Z, and an ancillary reference with the biomass; that we start looking at developing a little more certainty on

what the board can grab a hold of, as far as okay the stock really, this little uptick is more than just a little uptick. It sounds pretty qualitative, but it is a lot better than where we've been for many years.

To think of the Technical Committee reverting back to days when it used to have to do relative F, back when it looked at the recreational fishery in the Mid-Atlantic for relative F, and those types of approaches. I think overall I'm suggesting no management change right now. Let's start developing some information to back up our reference point that we have.

CHAIRMAN ALLEN: I think they are very good points. Hopefully the rest of the board feels that way also.

MR. FOTE: Rob said about what I was going to say. I mean I remember when we were looking at not doing anything, because we saw all these small fish and never saw the big fish; back in the early 2000s. Because I made the motion back then to go to 100 pounds and 1 fish, and I am thinking there is no reason to change it at this point in time. I'm with him; we need to hold the line. I don't think we need to go out with an addendum. That is a lot of work. We can just start using the reference points as is. When we go out, when the fishery recovers, which I'm hoping for, since weakfish was the fish that we basically used, because of Carper from Delaware, that basically put the interjurisdictional fisheries bill the Atlantic Coast Conservation Act in place. It was on the back of weakfish. That is what my recommendations are.

MR. CLARK: Well, I'm just going to pretty much say, I'll keep it short; what Tom and Rob have said. I agree. There is no need for an addendum at this point. We've cut the fishery back as far as really we can. It is not having an effect, because of these other factors. I think we can just leave it alone.

MR. CHRIS BATSAVAGE: Most of what I was going to say has been said, of course. I guess a question I have, just kind of going to Rob's comments about trying to track things, as far as seeing how the stock is progressing in the meantime. Of course with that; I think having the assessment update in a couple years is going to be very informative, as far as the latest uptick.

But just as far as like biological samples, which all the states collect. It has been difficult to get those samples, because just the abundance of fish has been so low, and of course the catches are low with the current regulations. Is there any concern by the Technical Committee, at least in the short term, for I guess relying on the biological samples to kind of inform age class structure, based on just the difficulty in collecting those fish right now?

MR. BRUST: That is a very good point, and we did have discussions about it. We were wondering when we started this assessment whether we were going to have enough information to do an age-structured model. I think based on the results; a lot of those, at least a lot of my fears were nullified. We were able to do it. It is hard to get those samples, but we were able to do it with the samples that we have, so if we can just get everyone to continue doing what they're doing, at the very least, just go out and try your best to get those.

We know that those fish aren't coming in all that often. But when you hear about them, we need to get folks down at the docks to get those samples. Yes it is a concern, but as long as we continue to do what we're doing I think we're okay. As the fishery starts to rebound, as the population starts to rebound eventually, we're going to need to continue to keep up with the increase so that the samples increase along with the population.

CHAIRMAN ALLEN: Lynn.

MS. LYNN FEGLEY: My question has been answered, thank you.

CHAIRMAN ALLEN: Back to you, Rob.

MR. O'REILLY: It was just a comment on this collection process. I know that Joe Cimino who is back there, who is the Technical Committee Chair, could tell you better how we're doing. In Virginia we don't collect as many as we have in the past. I mean we've collected a lot of biological data in the past, and we still try and stay ahead of the mandates that we have to collect biological data.

But my comment is that we ran into this with striped bass, believe it or not, years ago. The regionalization of collections becomes very important. I think the encouragement is at certain times, these fish do show up. Where they show up can take care of sort of this regional situation where they don't show up. I think everyone is just going to have to sort of pay attention to that. We do hear that there were fish that showed up; this goes back a few years, in abundance in New Jersey. Then we hear there are fish that are showing up in North Carolina. It is going to be a situation where we have to cobble together whatever we can on a regional approach. I still think it is a realistic objective.

DR. LANEY: I agree with everything else that's been said as well. It seems to me that there have been some points raised here that merit further exploration under the heading of the research categories. I know John and Tom both pointed out that we may have had some significant increases in potential weakfish predators; like bottlenose dolphins and gray seals and harbor seals.

I think NMFS does track some of those. I think some of the take reduction teams do assessments on marine mammals, and possibly seals as well. We can probably get some information. It would be interesting to plot

those population changes over the weakfish SSB estimates and see if there is any visual correlation, which might merit some additional work.

Then I think Rob had a great point about the genetics. There are a whole lot more sophisticated genetic techniques out there today. It would be interesting to see somebody relook at the stock structure question, using more sophisticated, modern genetic techniques, and also look at the natal homing issue, and look at some fish beyond Age 2; and just see if that may be a factor in the overall decline.

I think those are some productive areas for investigation between now and the next assessment, if we can find some academic folks that would be interested in doing the genetic work. I think that would be a priority from my perspective, and then definitely look at the population increases in those marine mammals. Finally, I neglected earlier to say Jeff and committee, you guys have done a tremendous job.

I do have one more question, which I forgot to ask earlier, and that was I know when we had a Technical Committee meeting a number of years ago, when we first started talking to Yan. She was at the time exploring integrating some environmental variability into the model that she was working on back then.

Having not read this in detail, did that get factored in at all? I know there was some reference to the AMO, and how that might be influencing things. But I didn't recall hearing that she developed that part of it, and I just wondered if she was still working on that or if it did get incorporated and I missed it somehow.

MR. BRUST: The environmental information was not incorporated into the model. What she did though was the model estimated natural mortality. She then took that outside the

model, and compared it to the Atlantic Multidecadal Oscillation, which is a sea surface temperature, and ran a correlation outside of the model.

There was some correlation. It was a significant correlation, but if you remember I showed a plot with the three trends in natural mortality. One of those, the red one, it didn't increase nearly as much as the others. That was the relationship based on the AMO. It didn't go specifically into the model, but we did look at it outside of the model.

MS. DREW: If I could just add, it didn't go into the final model, but Yan did a lot of work prior to the final formulation of the model that the Technical Committee used, where she did incorporate that explicitly, and it turned out it did not fit as well as if you just let the model estimate it internally, which suggests that it is probably part of that; but there are other factors going on. It is not only that environmental factor that is the sole driver, so if you just don't force the model to have an explanation for it, it fits better than if you try to force an explanation on it.

CHAIRMAN ALLEN: Not seeing any more hands up, I think we can summarize this pretty quickly. It seems to be, unless there is some objection to stay the course as we are on weakfish. Maybe task the Technical Committee to look at a few different things, and we can have those discussions.

If there is something you want the Technical Committee to look at over the next year or two, and then come back with that update assessment in two years, and see if the recent uptick has developed into something more or not; and take it from there. Is there any objection to moving forward in that manner? Seeing none; is there anything else to come before the board today?

EXECUTIVE DIRECTOR ROBERT E. BEAL: Just kind of a clarification, back to Jason McNamee's question and point about an amendment or an addendum to adopt the new approach to reference points. I think by approving the assessment and peer review for management use, you have by default adopted those new reference points.

In our outreach materials and other things, we'll start using those new reference points, even though they have not been formalized in a management document yet. At this point, it is appropriate because under the old reference points and the new reference points, the guidance is really the same; which is the stock is still in pretty rough shape and opening up the fishery probably doesn't make any sense.

As you said, as we go down the road we can memorialize those in the next management document that the board works on, and then we can deal with the other management issues at the same time, rather than going through that process twice. If that is acceptable to the board, which I think is the direction you guys are going in.

CHAIRMAN ALLEN: Yes thanks for that clarification. I assume everybody is okay with that. Lynn, you had something?

MS. FEGLEY: I just wanted to convey a message. This meeting was Bill Goldsborough's last as our Governor's Appointee, and he couldn't make it in today, but he wanted me to send his regards to all, and just say it has been a pleasure working with you.

CHAIRMAN ALLEN: Thank you, Lynn. Bill will be missed at this table, that's for sure; anything else?

MR. O'REILLY: I would like to take this opportunity for everyone to share in on thanking Russ for being at the helm for weakfish. I certainly appreciate the fact that

despite we didn't have all the excitement that we have for some other species; nonetheless there has been a lot of progress. What's happened while Russ was here, with everyone else involved, working forward with the assessment and completing that is really notable. I've been following this species closely since 1990, and my optimism is there, and I hope everyone else optimism is there as well, and thank you, Russ.

CHAIRMAN ALLEN: Thanks, Rob; I am sure you will step right in here with no problem.

#### **ADJOURNMENT**

CHAIRMAN ALLEN: Is there anything else before the board? Seeing nothing, I will take the liberty to adjourn this meeting; as I learned yesterday. Thank you.

(Whereupon the meeting was adjourned at 9:30 o'clock a.m. on May 5, 2016.)

# Atlantic States Marine Fisheries Commission

## South Atlantic State/Federal Fisheries Management Board

*February 7, 2018  
12:45 – 2:45 p.m.  
Arlington, Virginia*

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

- |                                                                                                                                                                                                |            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 1. Welcome/Call to Order ( <i>J. Estes</i> )                                                                                                                                                   | 12:45 p.m. |
| 2. Board Consent                                                                                                                                                                               | 12:45 p.m. |
| • Approval of Agenda                                                                                                                                                                           |            |
| • Approval of Proceedings from October 2017                                                                                                                                                    |            |
| 3. Public Comment                                                                                                                                                                              | 12:50 p.m. |
| 4. Consider Approval of State Implementation Plans for the Interstate Cobia Fishery Management Plan <b>Final Action</b>                                                                        | 1:00 p.m.  |
| • Technical Committee Report ( <i>S. Poland</i> )                                                                                                                                              |            |
| 5. Consider Approval of Draft Addendum I to the Black Drum Fishery Management Plan for Public Comment ( <i>M. Schmidtke</i> ) <b>Action</b>                                                    | 1:40 p.m.  |
| 6. Review Technical Committee/Plan Review Team Report on Recommended Updates to the Annual Traffic Light Analyses for Atlantic Croaker and Spot ( <i>C. McDonough</i> ) <b>Possible Action</b> | 2:00 p.m.  |
| 7. Consider 2017 FMP Reviews and State Compliance Reports for Spanish Mackerel and Spot ( <i>M. Schmidtke</i> ) <b>Action</b>                                                                  | 2:30 p.m.  |
| 8. Other Business/Adjourn                                                                                                                                                                      | 2:45 p.m.  |

The meeting will be held at the Westin Crystal City, 1800 Jefferson Davis Hwy, Arlington, Virginia 22202; 703.486.1111



# MEETING OVERVIEW

## South Atlantic State/Federal Fisheries Management Board Meeting

**Wednesday, February 7, 2018**

**12:45 – 2:45 p.m.**

**Arlington, Virginia**

Chair: Pat Geer (GA) Assumed Chairmanship: 02/18	Technical Committee (TC) Chairs: Cobia: Steve Poland (NC) Atlantic Croaker: Chris McDonough (SC) Black Drum: Harry Rickabaugh (MD)	Law Enforcement Committee Representative: Capt. Bob Lynn (GA)
Vice Chair: Vacant	Advisory Panel Chair: Tom Powers (VA)	Previous Board Meeting: October 19, 2017
Voting Members: NJ, DE, MD, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS, SAFMC (12 votes)		

### 2. Board Consent

- Approval of Agenda
- Approval of Proceedings from October 19, 2017

**3. Public Comment** – At the beginning of the meeting public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

<b>4. Consider Approval of State Implementation Plans for the Interstate Cobia Fishery Management Plan (1:00 – 1:40 p.m.) Final Action</b>
<b>Background</b> <ul style="list-style-type: none"> <li>• In October, 2017, the Board approved an Interstate Fishery Management Plan (FMP), developed as a complement to the federal FMP. (<b>Briefing Materials</b>)</li> <li>• State plans to implement this FMP were submitted to the Commission and reviewed by the Cobia Technical Committee (TC) in January, 2018. (<b>Supplemental Materials</b>)</li> </ul>
<b>Presentations</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> TC Review of State Implementation Plans by S. Poland</li> </ul>
<b>Board actions for consideration at this meeting</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Consider final approval of State Implementation Plans for the Cobia FMP.</li> </ul>

**5. Consider Approval of Draft Addendum I to the Black Drum Fishery Management Plan for Public Comment (1:40 – 2:00 p.m.) Action**

**Background**

- In October, 2017, the Board initiated an Addendum that would allow Maryland's commercial fishery for black drum to be re-opened in the Chesapeake Bay.

- The Black Drum Plan Development Team completed Draft Addendum I to the Black Drum FMP in January, 2018. **(Briefing Materials)**

**Presentations**

- Summary of Draft Addendum I by M. Schmidtke

**Board actions for consideration at this meeting**

- Consider approval of Draft Addendum I for Public Comment.

**6. Review Technical Committee/Plan Review Team Report on Recommended Updates to the Annual Traffic Light Analyses (TLA) for Atlantic Croaker and Spot (2:00 – 2:30 p.m.) Possible Action**

**Background**

- In May, 2017, the Board directed the Atlantic Croaker TC and Spot Plan Review Team (PRT) to conduct exploratory analyses to potentially incorporate additional indices and adjustments into the TLAs for Atlantic croaker and spot.
- The TC/PRT met several times via conference call and have developed a memo listing recommended updates for each TLA. **(Briefing Materials)**

**Presentations**

- TC/PRT Recommended Updates to Atlantic Croaker and Spot TLAs by C. McDonough

**Board actions for consideration at this meeting**

- Consider use of the TC/PRT-recommended updates to the annual TLAs.

**7. Consider 2017 FMP Reviews and State Compliance Reports for Spanish Mackerel and Spot (2:30 – 2:45 p.m.) Action**

**Background**

- Spanish Mackerel State Compliance Reports are due on October 1. The Plan Review Team reviewed each state report and compiled the annual FMP Review. New Jersey, Delaware, and Georgia have applied for *de minimis*. **(Supplemental Materials)**
- Spot State Compliance Reports are due on November 1. The Plan Review Team reviewed each state report and compiled the annual FMP Review. Georgia has applied for *de minimis*. **(Supplemental Materials)**

**Presentations**

- Overview of the Spanish Mackerel and Spot FMP Reviews by M. Schmidtke

**Board actions for consideration at this meeting**

- Accept 2017 FMP Reviews and State Compliance Reports
- Approve *de minimis* requests for NJ, DE, and GA for Spanish mackerel and for GA for spot.

**8. Other Business/Adjourn**

## South Atlantic Board

### Activity level: Moderate

**Committee Overlap Score:** Moderate (American Eel TC, Horseshoe Crab TC, Shad and River Herring TC, Sturgeon TC, Weakfish TC)

#### Committee Task List

- Atlantic Croaker TC ≈ February: Provide recommendations on Traffic Light Analysis changes
- Spot PRT ≈ February: Provide recommendations on Traffic Light Analysis changes
- Cobia TC ≈ February: Provide recommendations on State Implementation Plans for the Cobia Fishery Management Plan
- Black Drum TC – Spring: Review 2014 benchmark stock assessment research recommendations and make recommendation for 2019 stock assessment
- Red Drum SAS - Spring: Develop assessment roadmap and update ASC on progress
- Atlantic Croaker TC - July 1: Compliance Reports Due
- Red Drum TC – July 1: Compliance Reports Due
- Cobia TC – July 1: Compliance Reports Due
- Atlantic Croaker TC – August 1: Update Traffic Light Analysis
- Spot PRT – August 1: Update Traffic Light Analysis
- Black Drum TC – August 1: Compliance Reports Due
- Spot PRT – November 1: Compliance Reports Due

#### TC Members:

**Atlantic Croaker:** Chris McDonough (SC, Chair), Kristen Anstead (ASMFC), Michael Schmidtke (ASMFC), Tim Daniels (NJ), Michael Greco (DE), Harry Rickabaugh (MD), Ryan Jiorle (VA), Jason Rock (NC), Dan Zapf (NC), Dawn Franco (GA), Joseph Munyandorero (FL), Wilson Laney (USFWS)

**Black Drum:** Harry Rickabaugh (MD, Chair), Jeff Kipp (ASMFC), Michael Schmidtke (ASMFC), Craig Tomlin (NJ), Jordan Zimmerman (DE), Ryan Jiorle (VA), Chris Stewart (NC), Chris McDonough (SC), Ryan Harrell (GA), Dustin Addis (FL)

**Cobia:** Steve Poland (NC, Chair), Michael Schmidtke (ASMFC), Angela Giuliano (MD), Ryan Jiorle (VA), Mike Denson (SC), Chris Kalinowsky (GA), Christina Wiegand (SAMFC)

**Red Drum:** Ryan Jiorle (VA, Chair), Jeff Kipp (ASMFC), Michael Schmidtke (ASMFC), Tim Daniels (NJ), Michael Greco (DE), Genine McClair (MD), Lee Paramore (NC), Steve Arnott (SC), Chris Kalinowsky (GA), Behzad Mahmoudi (FL), Wilson Laney (USFWS), Roger Pugliese (SAFMC)

**Spot (PRT):** Dawn Franco (GA), Ryan Jiorle (VA), Adam Kenyon (VA), Chris McDonough (SC), Harry Rickabaugh (MD), Michael Schmidtke (ASMFC), Dan Zapf (NC)

**SAS Members:**

**Red Drum:** Steve Arnott (SC, Chair), Carolyn Belcher (GA), Angela Giuliano (MD), Ryan Jiorle (VA), Jeff Kipp (ASMFC), Lee Paramore (NC), Michael Schmidtke (ASMFC)

**DRAFT PROCEEDINGS OF THE**  
**ATLANTIC STATES MARINE FISHERIES COMMISSION**  
**SOUTH ATLANTIC STATE/FEDERAL FISHERIES MANAGEMENT BOARD**

**The Marriott Norfolk Waterside**  
Norfolk, Virginia  
**October 19, 2017**

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## INDEX OF MOTIONS

1. **Approval of Agenda** by Consent (Page 1).
2. **Approval of Proceedings of August 2017** by consent (Page 1).
3. **Move to adopt Option 2: 36" fork length for recreational minimum size limit options, Option 2: 1 fish per person for recreational bag limit options, and Option 2: up to 6 fish per vessel for recreational vessel limit options, and Option 2: up to 6 fish per vessel for recreational vessel limit options** (Page 4). Motion by Robert Boyles; second by Michelle Duval. Motion carried (Page 6).
4. **Move to adopt option 2: soft harvest target for recreational season/allocation options** (Page 8). Motion by Robert Boyles; second by Spud Woodward. Motion carried (Page 8).
5. **Move to select Sub-option D under Option 2: 5 year/10 year average reference period** (Page 8). Motion by Michelle Duval; second by Joe Cimino. Motion carried (Page 9).
6. **Move to adopt Sub-option F under Option 2: 3 years landings monitoring timeframe** (Page 10). Motion by Michelle Duval; second by Robert Boyles. Motion carried (Page 10).
7. **Move to adopt Option 2: 33" commercial minimum size limit under section 4.2.1 and adopt a possession limit of no more than 2 fish per person, not to exceed 6 fish per vessel** (Page 12). Motion by Michelle Duval; second by Robert Boyles. Motion carried (Page 12).
8. **Move to adopt Option 3: a *de minimis* program for recreational fisheries only** (Page 14). Motion by Lynn Fegley; second by Spud Woodward. Motion carried (Page 14).
9. **Move to adopt Sub-option B: the ability to match an adjacent non-*de minimis* state and Sub-option D: recreational minimum size of 29"** (Page 17). Motion by Lynn Fegley; second by Roy Miller. Motion carried (Page 18).
10. **Move to recommend to the Commission the approval of the Cobia Interstate Fishery Management Plan as amended today** (Page 19). Motion by Robert Boyles; second by Michelle Duval. Motion carried (Page 20).
11. **Move to initiate an addendum that would allow Maryland to re-open its pre-existing commercial black drum fishery under a 28 inch minimum size and a 10 fish daily vessel limit** (Page 23). Motion by Lynn Fegley; second by Malcolm Rhodes. Motion carried (Page 23).
12. **Move to accept the 2017 FMP Reviews and State Compliance Reports for black drum, red drum, and spotted seatrout and approve *de minimis* requests for New Jersey and Delaware for both red drum and spotted seatrout** (Page 27). Motion by Malcolm Rhodes; second by Chris Batsavage. Motion carried (Page 27).
13. **Motion to adjourn by Consent** (Page 28).



**ATTENDANCE**

**BOARD MEMBERS**

Heather Corbett, NJ, proxy for L. Herrigty (AA)	David Bush, NC, proxy for Rep. Steinburg (LA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)	Michelle Duval, NC, proxy for B. Davis (AA)
Roy Miller, DE (GA)	Robert Boyles, SC (AA)
John Clark, DE, proxy for David Saveikas (AA)	Malcolm Rhodes, SC (GA)
Craig Pugh, DE, proxy for Rep. William Carson (LA)	Patrick Geer, GA, proxy for Rep. Nimmer (LA)
Rachel Dean, MD (GA)	Spud Woodward, GA (AA)
Ed O'Brien, MD, proxy for D. Stein (LA)	Jim Estes, FL, proxy for J. McCawley (AA)
Lynn Fegley, MD, proxy for D. Blazer (AA)	Wilson Laney, USFWS
Joe Cimino, VA, proxy for J. Bull (AA)	John Carmichael, SAFMC

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

**Staff**

Toni Kerns  
Robert Beal

Mike Schmidtke  
Louis Daniel

**Guests**

Jack McGovern, NMFS

The South Atlantic State/Federal Fisheries Management Board of the Atlantic States Marine Fisheries Commission convened in the Hampton Roads Ballroom V of the Marriott Waterside Hotel, Norfolk, Virginia, October 19, 2017, and was called to order at 12:38 o'clock p.m. by Chairman Jim Estes.

#### **CALL TO ORDER**

CHAIRMAN JIM ESTES: Good afternoon. I would like to call the South Atlantic State/Federal Fisheries Management Board meeting to order. My name is Jim Estes. I am the Administrative Proxy from Florida; and I will be guiding us through the meeting today.

#### **APPROVAL OF AGENDA**

CHAIRMAN ESTES: The first part of our agenda is the approval of the agenda.

I have one minor change right before we start talking about cobia. Mr. Laney wants to make an introduction. We'll do that. Are there any other suggestions to change of the agenda? Oh excuse me; Mike is also going to talk about the cobia stock ID workshop after we finish cobia. Are there any other changes? Yes, Mr. Bush.

MR. DAVID E. BUSH, JR.: Just a quick question. I didn't see it on here and I wasn't sure if it was planned for today. We do have some folks from out of town. I wondered if there would be any opportunity for public comment.

CHAIRMAN ESTES: I've already talked to them and told them that we didn't think that we should take public comment on the cobia issue right now.

MR. BUSH: Thank you.

CHAIRMAN ESTES: Are there any suggested changes to the agenda; any objections to approval of the agenda? Seeing none; the agenda is approved by consent.

#### **APPROVAL OF PROCEEDINGS**

You all have proceedings from our August 2017 meeting. Are there any suggested changes to those proceedings; any objection to approving those proceedings?

Seeing none; those proceedings are approved. Okay now I guess it's going to be up to Dr. Daniel. Excuse me; any public comment on items not on the agenda? Seeing none; I guess we'll turn it over to Dr. Daniel to talk about cobia.

#### **INTRODUCTION OF GRADUATE STUDENTS**

CHAIRMAN ESTES: Hang on just a minute. Let Wilson do his introduction first.

DR. WILSON LANEY: I am pleased to introduce to the Board, we have two graduate students with us today, and I understand, Dan Crear from the Virginia Institute of Marine Sciences. Dan wave your hand there; and then also a student of Dr. Jeff Buckel at N.C. State, Riley Gallagher is with us, Mr. Chairman, and your pleasure, did you want them to just say a sentence of two about what it is they are going to be doing?

CHAIRMAN ESTES: I think that we would be interested in that thank you.

MR. DAN CREAR: Hi, so my name is Dan Crear and I am a PhD student at VIMS; working under Kevin Weng. One of the pieces of my dissertation is looking at the effects of climate change on cobia distribution. To do this briefly, I'm looking at tagging cobia; and also doing some physiology experiments on them to try to come up with a suitable habitat model. Then use climate models then to try to predict or forecast where cobia may be in the future under our changing climate.

MR. RILEY GALLAGHER: Hi there, my name is Riley Gallagher; first year Masters at N.C. State working under Jeff Buckel. Similar idea here, trying to get as many tags out as possible to do survival stock structure; and look at genetics of cobia, also get sort of a movement component

into the project with a postdoc and myself the Master student under this CRFL fund.

DR. LANEY: Thank you, Mr. Chairman for your indulgence; and we're glad to have you two gentlemen with us, and I hope you'll make some good network connections while you're here.

#### **COBIA FMP FOR FINAL APPROVAL**

CHAIRMAN ESTES: Thank you, Wilson. Let's dig right into the cobia management plan, Dr. Daniel.

DR. LOUIS B. DANIEL, III: Hello South Atlantic Board. I am here today to go over the public comments that we received on the cobia FMP, and to determine moving forward and the various options that you will be considering. That's where we are in the document development timeline. Board considers the final action on the draft fishery management plan.

#### **REVIEW OPTIONS AND PUBLIC COMMENT SUMMARY**

DR. DANIEL: Again, as Toni indicated in the previous meeting, if the Board does approve this the Commission will approve it at their November meeting, special meeting to deal with menhaden management. You probably don't need it, but here's a quick background summary of the issues associated with cobia. There is a federal ACL of 620,000 pounds for the recreational fishery; 50,000 for the commercials.

Landings have been exceeding the ACL. Most landings are from Georgia to Virginia in the recreational fishery; and in the commercial fishery the majority of the landings are coming from North Carolina. It is somewhat of a bycatch fishery; although that is starting to change somewhat, in that folks are directing on these fish.

DR. DANIEL: Getting right into the public comment summary, during the public comment

period we received 44 written comments; and the majority (41 of those comments), were really not specifically related to any of the management options in the FMP. The first thing I'm going to do is go through those comments that were not specific to any specific options in the plan; but just provide the general opinion that we received from the various public comments and public meetings that were held.

In essence, the majority in the public comments indicated that they would like to see a delay in any ASMFC involvement until after an updated stock assessment is completed. Thirteen of those comments also supported the use of any new Virginia mandatory reporting data from their recreational fishery. That was the overwhelming opinion. There were also concerns with the quality of the MRIP data and its use in management. That was pretty ubiquitous up and down the coast, and concerns with the current southern boundary of the Atlantic migratory group cobia at the Georgia/Florida line and its impacts on allocations. Those were consistent themes and consistent issues with the public comments that we received. At the public meetings there was a slight variability in the public meeting summaries from Virginia, North Carolina and those from Georgia and South Carolina.

The major theme at the Virginia and the North Carolina hearings was to delay any action until a new stock assessment is completed; or until full management authority is granted to the ASMFC. Essentially, no complementary plan, no working with the councils, waiting to do any kind of plan activity until the ASMFC has full management authority.

All regions in the public meetings expressed concerns over the stock boundaries and the quality and reliability of the MRIP data. The South Carolina and Georgia meetings were more concerned with the EEZ closures; the impacts of the federal closures and on closing the EEZ, and the disproportionate impact that has on the southern states as opposed to North

Carolina to some degree, and Virginia to a larger degree.

#### REVIEW COMMITTEE REPORTS

DR. DANIEL: AP Comments, I attempted to put together a conference call after the public comment period was closed to get the APs preferred options. I really didn't get any response. I had one member respond to me; and so the meeting was not held. I did receive pretty extensive public comments from one member who attended; I think from South Carolina, who supported Option 2 and provided specific comments on the size limits, bag limits, and vessel limits options. But then he also indicated an interest in a spawning season closure of some length in early summer.

He also related concerns about methyl mercury in cobia and public awareness of these levels, and concerns again with the quality of the MRIP data. The only other AP member I heard from just told me he wanted to be on record as supporting the allocation option that best advantaged North Carolina. That was the AP summary. I will stop there, Mr. Chairman, for any questions on the public comment summary thus far; and if there is any concern about moving forward.

CHAIRMAN ESTES: Yes sir, Robert.

MR. ROBERT H. BOYLES, JR.: Maybe not a question for Dr. Daniel as much as it might be for John Carmichael or Dr. McGovern. I note a particular comment, and I think it's the House Appropriations language regarding the cobia stock assessment, and was curious if someone could comment on the timing of the next stock assessment.

DR. DANIEL: From our understanding Mr. Boyles, Mike is going to go over the schedule for the Stock ID Workshop once we're completed with the FMP. Then once that's completed the stock assessment is expected to move forward sometime in '19 or '20. I don't

know the exact data at this point. John may be able to give us an exact date.

MR. JOHN CARMICHAEL: Yes thank you. That's right the Stock ID Workshop will be held this spring. We're looking at a data workshop for this project sometime in late November, 2018. We will go to the South Atlantic SSC with schedule and terms of reference at their April, 2018 meeting. It is schedule to be completed and to the council, the assessment in late 2019. I think we would hope to have it to the SSC for their October, 2019 meeting. Then in that case it would go to the Council in December of 2019. This is of course very much contingent upon the stock ID process playing out as scheduled and as planned, and being able to develop a stock ID recommendation through that workshop and the subsequent peer review.

CHAIRMAN ESTES: Yes, are there any other questions? Robert.

MR. BOYLES: Follow up if I could, maybe a question for Joe. Joe, I know that we've been working; geneticists on our staff have been working with anglers to the north in North Carolina and Virginia specifically. Any sense of where we are with respect to data collection, sample collection?

MR. JOE CIMINO: Yes, we've been very successful with sample collection. I couldn't say and I wouldn't want to speak for VIMS that all samples will be processed. But they are well aware of the date. We've given two different preliminary dates; and they'll make as much available as possible.

CHAIRMAN ESTES: Okay, any questions of Louis on the public comment? Yes, Ma'am.

DR. MICHELLE DUVAL: Not so much a question for Louis, Mr. Chairman, but I did just want to try to address some of the concerns that stakeholders brought forward; in terms of timing and ASMFC involvement in a plan and not having any ASMFC involvement unless and until complete authority could be transferred

over to ASMFC. I understand that and hear that and appreciate that; and I appreciate also that folks would really prefer that we be able to simply exist under the management that we've had for 25 years of two fish at 33 inches.

You know unfortunately the law constrains us to do otherwise; and that's why we've elected to move forward with this fishery management plan. In terms of the timing, it is really difficult to line up the timing of things such that we know that when management body takes over a species another one immediately disengages from the process. I think we're trying to get those things lined up as quickly as possible.

CHAIRMAN ESTES: We heard from Louis that a lot of the public comment had to do with that issue. We have some folks here today that wanted to address that issue. I would like to see some reaffirmation of the Board that you want to continue going through developing the FMP today. Can I get that from somebody? Is there anybody that opposes going through and continuing with what we started today? Seeing none; I guess we go forward.

#### **CONSIDER FINAL APPROVAL OF COBIA FMP**

DR. DANIEL: Here we go. I've tried to put this in as logical an order as I possibly can; so if it's not it is all my fault. What I've got up here, these are the complementary measures on the left, the recreational fishery that the Council currently employs through Framework 4. On the right hand side are the three primary action items 4.1.1, .2, and .3 that address those exact same complementary measures. Just keep that in mind as we go through the next couple of slides.

I keep messing her up next to me. She's going to shoot me. All right, so the first issue is in Section 4.1.1 Recreational Size Limit. Option 1 was status quo, no coastwide size limit. Option 2 was the coastwide size limit of 36 inches fork length. Please understand that in all these discussions and deliberations, it is expected that states would be able to select a total length

equivalent to the fork length requirement. In terms of public comment on this one issue, we had 26 written comments from the Virginia Saltwater Sportfishing Association that supported Option 1, which was no size limit until there is a plan; and one AP member that supported Option 2. Now if I can go through the next three then we might have a way to do a combined motions or however you want to handle it. But this I thought was probably a pretty good way to do it. The next one is the bag limits, 4.1.2, which Option 1 was no coastwide bag limit.

Option 2 was a coastwide bag limit of 1 fish. Those were the alternatives you selected to move forward to public comment, 26 public comments again VSSA supported Option 1, no bag limit, and one AP member supported Option 2. Then the recreational vessel limit options 4.1.3, status quo no limit and Option 2 was up to 6 fish per vessel.

Again, VSSA supported Option 1, no limit and one AP member supported a maximum vessel limit of 3 fish per vessel. Those are the three options. Those are the three issues that would serve to either complement or not the South Atlantic's recreational management measures of bag, size and vessels limits, under Sections 4.1, 2, and 3. Robert.

MR. BOYLES: If you're ready for a motion I would make one.

DR. DANIEL: I'm ready.

**MR. BOYLES: I would make a motion that we adopt Option 2 for recreational size limit options, Option 2 for recreational bag limit options, and Option 2 for recreational vessel limit options. If I can get a second I would explain my motion.**

CHAIRMAN ESTES: Michelle, second. Yes sir, Robert.

MR. BOYLES: I certainly appreciate constituents interest in holding off until we get either the

stock assessment sorted out or updated, or just until some other time. But clearly given the historical overages we've seen in this fishery, I think it's just not responsible for us as managers to delay action. With respect to those constituents who would like to see us delay action, I just don't think in good conscience we can walk away from this.

CHAIRMAN ESTES: Discussion on the motion, are there any other discussions? Yes sir, Mr. Bush.

MR. BUSH: There is obviously a lot that goes into this, but understanding some of the conversation at the South Atlantic meeting that we had recently as well, there was significant discussion as to the impacts of complementary measures or anything taking place before they actually figure out what's being managed and where it's being managed at. I know that quite a few states expressed interest in holding off until we actually get some of this figured out; because they have no idea how it's going to impact them.

CHAIRMAN ESTES: Any other questions or discussion about the motion on the table? Adam.

MR. NOWALSKY: This plan is going to have very little impact on New Jersey's fishermen. But I would be remiss if I once again did not offer our experiences with recreational concerns; and the items in this plan. Specifically I hear the concern about, we would be remiss if we didn't respond to these harvest overages that are occurring. MRIP was never intended to be accurately depicting landings on an annual basis, much less a pulse fishery like this as I understand it. The Board can move forward as they see fit; but I just don't think we can go ahead. The public has certainly weighed in. We've had a lot of discussion about it. I just don't think we could leave here. I can't leave here knowing that we're acting on these massive overages that the resource needs for its conservation with all the questions about the catch data. I think it's important to have that

on the record; and I think it at least responds to the concerns we've heard from the public, as Dr. Daniel has outlined here.

CHAIRMAN ESTES: Michelle.

DR. DUVAL: Thanks for those comments, Adam. You know we have debated this at the South Atlantic Council. We have written multiple letters in frustration. We've asked for recalculation of the 2015 and 2016 MRIP estimates of cobia. We unfortunately did not receive a very satisfactory response to that request.

We've asked for the MRIP program to address exactly the concerns that you've raised. We've discussed the fact that MRIP was never designed for pulse fisheries like cobia; it wasn't designed for most of our rarely intercepted recreational species. In the South Atlantic we are struggling with the same thing.

I think from our perspective, ASMFC management offers some ability to be a bit more flexible; particularly if we can move to ASMFC being the sole management entity for this species. I think you've heard that there have been a number of efforts underway; particularly in Virginia, with regard to alternative forms of reporting. The South Atlantic Council is undertaking a couple of different pilot projects with regard to alternate methods of reporting that we hope to be able to expand to cobia.

I think if you have questions you can ask John Carmichael about that. I recognize all of those concerns. I think for the future management of this species, this body offers the most flexibility and the greatest ability to be able to respond to those stakeholder concerns; and I absolutely share the frustrations about the inability of the program that we have to use under the federal system for tracking harvest of these species.

CHAIRMAN ESTES: Rachel.

MS. RACHEL DEAN: I was just wondering, for clarification purposes and because I know we have so much stakeholder involvement in this. Can we specify Option 2 in this motion; so that we can kind of operate with a little bit more clarity for somebody who may be following along?

CHAIRMAN ESTES: Good idea, thank you; while we're getting that Joe.

MR. CIMINO: I think this is a little more to your very first question than it is to the motion. It certainly gets to what Adam and Michelle were speaking to. I'll borrow a page from Robert's book and bring in a Ben Franklin reference. There is a famous story that as he sat through the Continental Congress Conventions he claimed he had been staring at the wood carving of the sun on the horizon; and he wasn't sure if it was a rising sun or a setting sun.

At the end of that he concluded it was a rising sun. I stood on this deck here and looked across at Nauticus and the 76th Annual Meeting logo of a cobia on top of Virginia with a striped bass below. I thought you know that's pretty appropriate. It seems like cobia is rising here. To Adam's thought that this is just about MRIP estimates; it really isn't. Going back to the last stock assessment we knew that there was a great deal of growing effort in this fishery; especially here in the Mid-Atlantic. I don't see any other way around it than addressing some of the things that we're trying to address right now. I think that needs to happen now.

To one of Adam's other points, he asked earlier in the week what species only has one amendment. Later on it will be a discussion on speckled trout where that's relevant; because speckled trout's been around with an FMP since the early '80s or mid '80s and no amendments. But here I don't see cobia being that type of management. I think within just a year or two we'll be talking about Amendment 1 to this cobia FMP, once we're dealing with this new stock assessment. I think it's time to move forward. This motion will have my support.

**CHAIRMAN ESTES: Rachel, is that clearer to you? Is there any more discussion about the motion? Seeing no hands; is there any opposition to the motion? Motion passes unanimously.**

DR. DANIEL: Moving on to the Recreational Season Allocation Options. This one is going to be fine. I hope that some of the issues in here address some of Adam's concerns; and if they do great, if they don't and you still have questions I'm happy to try to answer those. What we set up here is a flow chart; thanks to Mike and Kirby, looking at the three options for the recreational season allocation.

One option, and I hope I get my vernacular correct here; but Option 1 is a hard quota with shares of the recreational harvest limits with various options for the state-by-state allocation. Option 2 are soft targets of the coastwide recreational harvest limit; and Option 3 is the coastwide bag and size limits that currently exist in the federal FMP that has no distinction amongst the various states, so it's managed from Georgia to New York.

Likewise there is a sub-option which you requested that I think may address some of the concerns on at least the annual variability in the MRIP data; and that is where you can select a two or three-year average under Option 2, to try to smooth out some of those difficulties that we see in the MRIP data.

I'll go through first Option 1; again is a state-defined seasons harvest control measures. There is a state-by-state hard recreational quota share of the coastwide harvest limit. Those shares are divided among non de minimis states only; and we'll get into a discussion of de minimis later; and overharvest is paid back in the following year, and underharvest does not carry over.

Option 2: Option 2 is state defined seasons and harvest control measures as well. But in this circumstance state-by-state soft recreational harvest targets are based on the coastwide RHL.

Again, the limits are divided among non de minimis states. But the average annual landings evaluated against state allocated quotas are over a multiyear period.

Overharvest is paid back in the following multiyear period, which basically means that you've got to make a decision here on a 3, the 5, the 10, or the 5 and 10-year average reference period. Then you make a decision whether or not the overages are averaged over a two or three-year period. This option does allow for you to relax measures if you have an underharvest; persistent underharvest. We look at these various options. The distribution is essentially the same; it's just the manner in which it's handled with an overage or an underage is different between Option 1 and Option 2, so a very clear distinction between a hard quota in Option 1, and a soft target in Option 2. The historical landings reference period here in this table basically goes through and provides you the three-year average landings, in weight, for the 3 year, 5 year, 10 year and 5 and 10-year averages.

It goes through and it provides you and shows you what those reference period landings would be; and the percentage allocated to each state. If we just use the far right D column example for the 5 and 10-year average; Georgia would receive a 58,000 pound allocation, which is around 9.5 percent of the coastwide recreational allowance.

South Carolina is close to 75,000 pounds; around 12 percent, North Carolina 236,000 pounds, about 38, 39 percent, and Virginia 244,000 pounds or around 30 percent of the coastwide ACL. Then again you're selecting in Option 2 here you're looking at whether you're monitoring those various components for two years or three years.

If you exceed it in the average over three years, you exceed your ACL; then you've got to come up with a plan to try to reduce your harvest. In Option 3, which there was very little if any support for Option 3, I don't think there was

any support for Option 3. We'll get to the public comment here in just a second. The coastwide season and daily vessel limits are exactly the same as what's currently allowed in the South Atlantic.

It doesn't distinguish between the states; and once the quota is projected to be met, the federal government can either reduce the vessel limit or close the fishery in the EEZ. Our understanding for the folks; especially for the folks in South Carolina and Georgia is that there will be an effort to further reduce the bag limit, before actually closing the season in the EEZ, and try to use the closure in the EEZ as a last resort.

But that's Option 3, which is essentially status quo; the current Framework 4 options. Option 3, this is just the options that are actually contained out of the South Atlantic Council's Framework 4; which basically indicates what the coastwide season would be under Option 3 with the various vessel limits.

These are the specific comments that we received from the public at the various hearings and in letter form on the various options. There was one person that supported Option 1, which is the hard TAC. There was one person that supported Option 3, which was the current status quo South Atlantic action, and there were 28 folks that supported Option 2.

The reference period, there was one in favor of A, one in favor of B, 5 in favor of C, and 2 in favor of D; so the dominant one C is 10-year average. Four people selected the two-year average and one person recommended the three-year average for the timeframe. That is the option for recreational seasonal allocations; and I will stop there for questions and see if you have any, and if not get your debate.

CHAIRMAN ESTES: Let's try it this way. Let's go backwards a little bit. I think the first thing that we need to do is pick Option 1, 2, or 3; so that's a hard quota, a soft quota, or leave it like it is. I think it would be easier to go through this by



doing that. Are there questions about that or discussions or a motion about that? Robert.

**MR. BOYLES: I make a motion to select Option 2.**

CHAIRMAN ESTES: I have a second from Spud; discussion. You all get along so well. Do you need to think about it for a second? Lynn.

MS. LYNN FEGLEY: We were just going to request again if we could clarify what Option 2 is in the motion itself; that would be very helpful, thank you.

CHAIRMAN ESTES: Yes, good idea, right. We're working on that right now. While we're working on that does anybody have another Ben Franklin story?

MR. CIMINO: We've met our quota.

CHAIRMAN ESTES: Spud.

MR. A.G. SPUD WOODWARD: I have one. I'm sure everybody knows this. But you know Ben Franklin was an advocate of the wild turkey being the national bird and not the bald eagle; because he considered the bald eagle to be a scavenger, and the wild turkey to be a worthy icon of our country.

CHAIRMAN ESTES: Thank you, Mr. Woodward. Okay is that clarity good, Lynn? **Okay I'll ask again, any discussion on this option? Is there any opposition to this option? Seeing none; Option 2 passes.** Okay let's go to the sub-options.

DR. DANIEL: If we go back to the Table 4.1.4 back two slides. This is the decision that you would make as to whether or not you select Option A, 3 years, B, 5 years, C, 10 years or D the 5 and 10-year average. That 5 and 10-year average was an option that was developed by the special Board committee helping to address some of the options that were being developed; so that came from them.

CHAIRMAN ESTES: Dr. Duval.

DR. DUVAL: I just want to note that none of North Carolina's stakeholders actually specifically commented on this option. They were commenting more on Option 2 specifically; and so I just wanted it noted for the record that they didn't actually provide input on this particular option, in terms of a reference period of years.

Clearly each one of these has differential impacts on each one of the four states. **I think from where we stand, we believe that Option D actually provides the fairest means of splitting this up; and so Mr. Chairman, I would make a motion to select Option D under Option 2.**

CHAIRMAN ESTES: Do we have a second for that? Joe. We'll get it up on the board and then we'll discuss it. Okay, discussion about this motion. Yes, Ma'am.

DR. DUVAL: Clearly there is a lot of interannual variability in this fishery; and I think when you look at the way each one of these different options shakes out. You know each one of them would, as I said, disproportionately have more impact on one state versus another. It seems like taking this option, which takes into account both a recent timeframe and a more historic timeframe; it gives the greatest ability to encompass that variability in the fishery. In the years that were used for this were just through 2015; so prior to any regulatory constraints, prior to the early season closure that occurred in 2016.

CHAIRMAN ESTES: Do we have any comments in opposition to this motion? Mr. Woodward.

MR. WOODWARD: Well, not so much in opposition. But I think it would be remiss of me to vote for something that doesn't give Georgia the largest opportunity for a share of the cobia resource. I mean I don't have to remind everybody we lost this calendar year to it. My fishermen generally are supportive of whatever

gives us the largest opportunity; which gives us the greatest flexibility for matching season length and so forth and so on. That would be my reason for not supporting this.

CHAIRMAN ESTES: Okay, any discussion or comments in favor of the motion? Is there any other discussion or comments in opposition to the motion? I will do my job here and read the motion this time: **Move to select Sub-option D under Option 2; 5 year, 10-year average reference period, motion by Dr. Duval, second by Mr. Cimino. Can I see a raise of hands for all those that support this motion; those in opposition? The motion passes, 5 to 2. Abstentions, excuse me, 3, no null votes.**

DR. DANIEL: The last decision item on this Recreational Seasonal Allocation Option is to discuss the landings monitoring timeframe. This was an action item that was included by the Board at your last meeting; to provide some flexibility so the management measures weren't being taken on a single point-year estimate of landings from MRIP, and that you would either use an average of the last two years or three years to determine whether or not you're over your state-specific allocation. Your public comment, four supported the two-year option and one voted support for the three-year option.

CHAIRMAN ESTES: Questions, comments or motions. Dr. Duval.

DR. DUVAL: Yes again, given the inter-annual variability in this fishery, it seems like the three-year sub-option would be the most appropriate; in terms of being able to account for that inter-annual variability. I mean I'm certainly happy to make a motion to that regard. But I would also like to hear what other folks have to say around the table.

CHAIRMAN ESTES: Other comments. Joe.

MR. CIMINIO: I know this was a big discussion at South Atlantic Council, because they have to deal with some of this stuff in accountability

measures; and not just with this fishery. At times very high and possibly anomalous estimates can also haunt you for an extra year, when you have that three-year average. This is a tough choice. But I just wanted to point that out.

MS. FEGLEY: I was just going to concur that if you have a very high and anomalous spike, you would be better off trying to work that out over three years than two years.

CHAIRMAN ESTES: John.

MR. CARMICHAEL: We certainly discussed that a lot at the Council, especially with the plans that have perhaps payback or something; based on those three-year averages. One of the things we're looking at now is going to a geometric mean; because it's less penalizing over time of that individual high spike.

But I think in the case of this, with the way this is set up, you may have the ability to say if you pull that trigger well then you're going to figure out how you're going to respond to that. You may decide that if you're successful in responding to that maybe you don't count that single high year in your future evaluations. It seems like the Commission has a little bit more flexibility in dealing with that. I'm kind of optimistic it won't be as much of a challenge as it has been with the Council.

CHAIRMAN ESTES: Spud.

MR. WOODWARD: I can certainly support three years too. Just sort of building on what John is saying, I mean it's been a long time since I took a college statistics course; but I vaguely remember something called iterative outlier rejection, which is basically common sense in statistics. Hopefully if we see really anomalous things come out of the MRIP catch estimates that we will have the ability to address those for what they are; and not be very legalistic and penalize states for something that we know do not comport with reality.

CHAIRMAN ESTES: Okay, what is the will of the Board here? Michelle.

**DR. DUVAL: Let's move this along. I make a motion to adopt Sub-Option F, 3 years under Option 2.**

CHAIRMAN ESTES: I have a second from Robert. **Okay is there any further discussion needed for this issue? Seeing none; I'll read it into the record: Move to adopt Sub-option F, under Option 2; 3 years landing monitoring timeframe, motion by Dr. Duval seconded by Mr. Boyles. Is there any opposition to this motion? Seeing none; motion passes unanimously.**

DR. DANIEL: Similar to the recreational options that we discussed at first, this is a similar slide that shows the current measures under South Atlantic Council Framework 4 for the commercial fishery. We're dealing just with the commercial fishery now. The proposed areas and options under the FMP with the ASMFC; which are Sections 4.2.1 minimum size limit, and 4.2.2.

Specifically Option 4.2.1 the commercial size limits was status quo, no coastwide size limit, and Option 2 a minimum size of 33 inches fork length or total length equivalent. Again, public comment 26 written comments, again from the Virginia Saltwater Sportfishing Association supported Option 1, no coastwide limits.

Two comments, one at each of the South Carolina and Georgia hearings supported Option 2. Moving on to commercial possession limits; where this has been a confusing issue: Option 1, status quo, no coastwide limit, Option 2, state-specific possession limits of no more than 2 fish per license holder, not to exceed 6 fish per vessel.

In terms of public comment, 26 written comments again from the VSSA supported no option. Two support comments, one at each of the South Carolina and Georgia hearings supported Option 2, and one comment at the

South Carolina hearing recommended consideration of a per person or vessel limit. They also suggested the potential for having a commercial fishing permit for cobia. Those complementary measures, similar to what we discussed under the recreational, are contained on this slide. The two options are 4.2.1 and 4.2.2 to address commercial size and possession limits.

CHAIRMAN ESTES: Michelle, please.

DR. DUVAL: This was something that I apologize, I was remiss and I should have brought this up earlier. To be perfectly honest it kind of slipped by me. But complementary would not be 2 fish per license holder, it would be 2 fish per person; in terms of being complementary with what the Council's regulations are.

Just to remind everybody, the regulations, the federal regulations in the South Atlantic for 25 years have been 2 fish per person at 33 inches. When the Council took action through Framework Amendment 4; which became effective I believe September 5 of this year, the only modification to that was to implement a 6-fish vessel limit.

It is still 2 fish per person at 33 inches, 6 per vessel. There is no per license holder requirement; and I believe that this type of inconsistency would actually cause significant regulatory discard. For instance, if I'm a commercial fisherman, you know many commercial fishermen in North Carolina their crew don't have a commercial license. It might be one commercial fisherman fishing with one or two crew members who don't themselves have licenses.

If I'm out in the EEZ, and I have myself and two crew members on my boat and we catch six fish. As soon as we would go into state waters in a 2 fish per license holder situation, we would be forced to dump over 4 fish. My recommendation and I hope we can do this, because it's less restrictive than what went out

to public comment, is to simply change per license holder to per person.

CHAIRMAN ESTES: I believe that we can do it, because it is less restrictive. Lynn.

MS. FEGLEY: I was just going to concur, and again this affects our state minimally, but it is also true when you do this kind of thing where you have a licensee requirement like this, depending on your state's rule. You can cause a lot of unintended consequences with the moving around of licenses; which can interfere with some of your accountability on harvest reporting. It's worth keeping those unintended consequences in mind. I would support the recommendation to change 2 per person.

CHAIRMAN ESTES: Robert, I saw your hand earlier.

MR. BOYLES: Yes, Sir just wanted to remind the Board that in South Carolina cobia are a game fish, so the possession limit from the commercial sector is zero.

DR. DANIEL: I just would feel like I would be remiss if I didn't just bring up the one point that was raised as a concern in this regard; and that was the fact that the commercial 50,000 pound limit has been very close to being exceeded, if not exceeded, and that the impacts of folks that are not necessarily bona fide commercial fishermen that have a license. That could increase the commercial harvest. Just so that everybody is aware of that potential. I'm not exactly sure where the commercial landings are at this point with the NMFS tally, but they may be close and it may be over. I just raise that as a point for your consideration.

CHAIRMAN ESTES: Dr. Duval.

DR. DUVAL: Just to answer Dr. Daniel's question. The commercial cobia fishery was closed on September 5, I believe. Dr. McGovern can probably speak better to this; but the Southeast Fisheries Science Center attempted to incorporate state waters only harvest into

the landings projections this year. There are landings that are reported via federal dealers, and then there are also landings that are reported via state only dealers.

It's my understanding that the Science Center was using those verified landings that have been reported through a similar timeframe last year, and included that in its projections of cobia harvest thus far. According to the Science Center, the last communication that I had received was that we were actually at 102 percent or 104 percent of the commercial coastwide ACL.

Then the other thing I just wanted to address very quickly was that there has never been a federal commercial permit for cobia. The states in the South Atlantic were not interested in pursuing a federal commercial permit; just given the very restrictive nature of the possession limit, and really the intent that that had been managed as a bycatch fishery.

CHAIRMAN ESTES: Okay, so I think that the way to, Jack.

DR. JACK MCGOVERN: What Dr. Duval stated is correct. You do have a situation where there are dealers with permits, and then there are dealers that do not have permits. The dealers have to report that have federal permits weekly, whereas the dealers that do not have federal permits, they have a longer timeframe to report.

Then I think Virginia they get the reports from the fishermen. It takes a long time to get that information. That's why the Science Center did the projection like that. I believe a couple years ago we went over the commercial ACL; because the dealers that did not have federal permits weren't taken into account during the season and those landings didn't come in until late.

CHAIRMAN ESTES: How does the Board want to handle this? Michelle.

**DR. DUVAL:** I might look to staff a little bit for some assistance with this; but it was going to be my intent to make a motion to adopt Option 2 under Section 4.2.1 Size Limit Options, and then also to adopt Option 2 under Section 4.2.2 with the modification of 2 cobia per person, rather than per license holder. I don't know if staff can help sort of perfect that.

CHAIRMAN ESTES: Okay let us have just a second. Michelle, is that your intent?

DR. DUVAL: Yes, Sir it is, thank you.

CHAIRMAN ESTES: Do we have a second? Robert. Is there any discussion about this motion? Move to adopt Option 2, 33 inch commercial minimum size limit under Section 4.2.1; and adopt a possession limit of no more than 2 fish per person, not to exceed 6 fish per vessel. Motion by Dr. Duval and seconded by Mr. Boyles, yes, Robert.

MR. BOYLES: Question for clarification, I'm sorry, I may be too late.

CHAIRMAN ESTES: No, you go ahead.

MR. BOYLES: Just for the record, the distinction between 33 inch minimum size on commercial and a 36 inch minimum size on recreational. I presume the 36 inch minimum size is designed to constrain the catch; and recognizing that the commercial ACL has until this year never been exceeded. Just for the purposes of the record, am I reading that correctly?

CHAIRMAN ESTES: Yes, I believe so. Yes, Michelle.

DR. DUVAL: The 36 minimum size limit that the Council put forward that was one measure to try to constrain harvest. Obviously there is a tipping point there, and then a 33 inch minimum size limit is also related to, this was primarily bycatch in the king mackerel fall gillnet fishery. A larger minimum size limit would induce additional discard.

CHAIRMAN ESTES: Yes, Sir, Dr. Rhodes.

DR. MALCOLM RHODES: Along that line at our meetings, I had similar concerns to the size discrepancies, and we had been at a 33 inch and talked with some of our fisheries biologists; and going to a 36 inch. I mean this is just for information for the Board; it's not affecting our decision. But going to a 36 inch fish, I was worried would unfairly disadvantage females.

But the biologist said that the 33 to 36, I think it was about 25 percent of the fish that they had caught at 33 inches were female; and it only went up to about 35. It was still less than the majority of fish at 36 inch were female. We should have no effect on the sex ratio by basically targeting the breeders.

CHAIRMAN ESTES: **Anymore discussion? Is there any opposition to this motion? Seeing none; the motion passes.**

DR. DANIEL: De minimis. All right here we go. The de minimis program that typically exempts states with minimal fisheries for a species from biological requirements, for cobia if we grant de minimis there would be no biological monitoring requirements in the FMP, and would allow states with minimal or episodic historical landings to keep a small number of cobia.

What were taken out to public comment were three options. One, to have no de minimis program, Option 2 would be a total de minimis program for the commercial and the recreational fishery, and Option 3 would be just the recreational fishery would be managed by de minimis. The harvest limit was reduced by 1 percent to allow for de minimis landings; so that has been taken account for in the quota.

Here is your flow chart; Option 1, no de minimis. If you select Option 2, there are sub-options that were offered by the Board at the last meeting, to have a minimum size limit of 33 inches in the commercial fishery and 36 in the recreational. That would be consistent with

what you just did for Georgia to Virginia. Then there is Sub-option D, which would require all harvest, commercial and recreational be 36 inches. That would be inconsistent with what we just did for Georgia to Virginia. Other options are under Option 2 would be a Sub-option A that would allow any of the states, and there have been a lot of questions about this, to choose to match adjacent states regulations.

Essentially what that means is that because all the potential de minimis states are north of Virginia, it would essentially mean that any de minimis state north of Virginia would implement the Virginia restrictions; because there would be no more adjacent states north of Virginia, unless somebody has a specific plan and enters into the FMP.

In Option 3, for recreational only, again the states can choose to match the adjacent states recreational program or a series of sub-options here which would have a minimum size of 36 inches recreational, which is consistent with what we just did, or drop it down to 29 inches for the recreational fishery; which at the last meeting that was the estimated length at L-50, 50 percent maturity was around 28 point something. We rounded it up to 29 inches.

There would be a 1 fish per vessel trip limit at the minimum size for Sub-option C and D; so 1 fish per trip in a de minimis state. Questions have been asked, well how is the commercial fishery managed under Option 3? It's managed exactly the same way as it's managed from Georgia to Virginia.

Any commercial landings would be held to, based on what you just did, 2 fish per person, up to 6 to the vessel, a fish 33 inches total length. That would be the same from Georgia to New York, and with those landing estimates captured by the landings data, and the fishery would close once a projected 50,000 pounds is met. That would be the way that the commercial fishery would be managed under Option 3.

Going through the options again; Option 2, include the de minimis program the state's total landings for 2. There was a lot of discussion about this at the last meeting, so I want to make sure everybody is clear here that the state's total commercial and recreational landings for two of the previous three years must be less than 1 percent of the coastwide total landings for the same time period.

Again, this was to try to accommodate some of the ups and downs in the MRIP data; and the regulations would be to potentially match regulations of an adjacent non de minimis state or just simply have a 1 fish per vessel limit, with a minimum size limit of your choice. Continuing with the Option 2, a de minimis state may not match management measures of an adjacent non de minimis state.

One fish per vessel per trip limit, with a minimum size, and a de minimis state may match management measures of an adjacent or the nearest non de minimis state, or have a 1 fish per person, per vessel, per trip limit with minimum size limit. Is that clear as 40-weight? Okay. What we've got is the various options, the various size limit options.

If you want to be consistent with what you just did in the non de minimis states it is 36 inches recreational, 33 inches commercial. You have an option to go to 36 across the board in non de minimis states, and those are the options for Option 2. You go to Option 3, which is just recreational. You've got an additional option there that allows you to drop the size limit even further down to 29 inches. Recreational and commercial, Option 1 to Option 2, recreational only Option 3; with the various size limit options. Perhaps, Mr. Chairman, the way that you handled the allocation option seemed to work well. If you want to select 1, 2, or 3, and then kind of go into the specifics of each one; that may be an appropriate way forward.

CHAIRMAN ESTES: Okay let's do that. Let's go to, yes Lynn first.

MS. FEGLEY: I was prepared to offer a motion if you're ready.

CHAIRMAN ESTES: We can try.

**MS. FEGLEY: Moving it along. I was going to move to adopt Option 3, a de minimis program for the recreational fisheries only.**

#### **PUBLIC COMMENT SUMMARY**

CHAIRMAN ESTES: Before we go too far. We're going to talk about the public comment here.

DR. DANIEL: My bad. De minimis, one comment from the Georgia hearing supported the de minimis program, didn't care which one. One written comment and several attendees of the Virginia and Hatteras, North Carolina hearings expressed concerns with growth and management of the fishery in Maryland.

The Law Enforcement Committee recommended consistency among the de minimis state regulations, so they're just not all over the board, because there are so many various options in there that we came up with at the last meeting that it could get confusing. That summarizes the public comment for de minimis; very little comment on de minimis.

CHAIRMAN ESTES: Spud.

MR. WOODWARD: I just wanted to offer a second to the motion, because I think it needs one.

CHAIRMAN ESTES: Thank you, seconded by Mr. Woodward. Lynn could you restate, okay I think we're getting it. Which sub-option did you move?

MS. FEGLEY: I would have to see the sub-options.

**CHAIRMAN ESTES: Let's do it this way, let's make it simple. Let's do Option 3 first and then we can talk about sub-options. Okay is there any discussion about Option 3, about the**

**motion? Seeing none; move to adopt Option 3, a de minimis program for recreational fisheries only. Motion by Ms. Fegley, seconded by Mr. Woodward, is there any opposition to the motion? Seeing none; the motion passes unanimously.** Louis, if you could pull up the sub-options again, please?

DR. DANIEL: Yes, Sir. Okay so under Option 3, you've selected Option 3, so now you have to make a choice between Sub-option A or B. A is a de minimis state may not match recreational management measures of an adjacent non de minimis state. That means one fish per vessel per trip recreational limit, or you may match recreational management measures of an adjacent or non de minimis state. Essentially it's a one fish limit, and then if you select that then you've got to select what the size limit would be; the options are 36 or 29 inches.

CHAIRMAN ESTES: Adam.

MR. NOWALSKY: If I understand these two options correctly, Option B is the same as Option A plus the ability to match? Okay, I'm seeing nods of the head. But one of the major differences here would be that if a state de minimis north of Virginia chooses to match, we would have to match size, bag, and season. However, if we don't match either by choosing not to, or through Sub-option A here, we only have to adhere to the 1 fish bag limit, the minimum size option from C or D, with no seasonal restriction.

CHAIRMAN ESTES: That's correct.

MR. NOWALSKY: I'm not sure that tells me what to do, but at least I feel better I understand what my options are.

DR. DANIEL: Well that was a better summary than I could have given of that recommendation. Yes, you're correct. If you want to be constrained by a season, then you select the option where you just complement adjacent states. If you want to not have to worry about a season, which for those of you

that may not see them very frequently, and not know when you might see them, you don't have a season and you allow a year round fishery; in case somebody runs into one. Those are the two choices that you have to make.

CHAIRMAN ESTES: Okay, Lynn.

MS. FEGLEY: Yes Adam that was really well summarized. I think that the issue here for our state is because we are so closely adjoined with Virginia. I certainly have the people to my right and my left who can speak to this much more eloquently. But it is my understanding that marketing a charterboat trip for a single fish is difficult at best.

From our perspective, given the fact that the Board has now elected to go down the road of the soft target, and so the states will have some flexibility in how they manage their fisheries. It would not be particularly advantageous for the state of Maryland to be locked into a single fish trip limit; even recognizing that we wouldn't have a seasonal constraint.

I think it would be more advantageous for us to have the ability to mimic what Virginia does; because if I'm a customer, and I know I can go to Virginia and get on a charterboat and get three fish, but I can only go to Maryland and get one. I may choose to divert my money to Virginia. From a business perspective, and also from an enforcement perspective, where we are in step, I think it would be helpful. That was the rationale for that if that helps.

CHAIRMAN ESTES: Joe.

MR. CIMINO: I have some concerns with the smaller minimum size; but I understand when you're talking about a small percentage of the landings, maybe that's not too impactful on the stock. My concern would be we all know that MRIP estimates can quickly take someone out of de minimis status. What exactly procedurally happens when we realize, probably sometime around this meeting that a state no longer qualifies for de minimis status in that following

year. Are they expected to get regulations in order, to be at the proper minimum size, and could they possibly do that in that timeframe?

CHAIRMAN ESTES: Let me restate, let me make sure I've got it right, Joe. State X is found, let's say it's an MRIP issue or it's a real issue. They are above the 1 percent so they are not de minimis. We find out sometime in October, if that's the case. Then they have to submit an implementation plan like the rest of the states do. Then they would have to change their rules within the state in a short time period. Is that what the issue is?

MR. CIMINO: That's my concern, yes.

DR. DANIEL: Well that could certainly happen. I mean that's the breaks of the game. I mean if you get a two of the three years, you go over de minimis and you are no longer de minimis, then you've got a mess; because then what you're going to have to do is you're going to have to figure out how to take all that quota off of the state, the non de minimis state. You're going to have to allocate some non de minimis state quota to another state; so you've got an amendment on the books, I think. That's the nuclear scenario that we're all hoping doesn't occur. But that's certainly possible.

CHAIRMAN ESTES: Spud.

MR. WOODWARD: Louis just basically described what I was going to say. I mean it would force us into amending the plan to redistribute whatever that quantity of fish is. You know if we were operating under an exclusive Commission management, we wouldn't necessarily have an ACL, but we would have something. Then we would have to redistribute it, which is what you said. Forcing us to reevaluate, and then you've got to defend whether the validity of the estimates from MRIP that caused you to go out of de minimis.

DR. DANIEL: Yes, I think it is going to be difficult; because clearly you've seen the landings that can occur in New Jersey, based on



one fish reported. Really, it's going to be one of the beauties of a Commission plan is that you do have the flexibility to look at that and say, well that's just obviously an accounting problem that we're going to wait and see what happens.

I mean you've done that in the past. But yes, if all of a sudden Maryland is consistently catching 50, 60, 70,000 pounds of cobia; which is in line with the current allocations for Georgia and South Carolina, clearly you're going to have to come up with some way to allocate fish to Maryland, if they're no longer de minimis, out of the existing pot.

The question then becomes if we're a complementary plan we use the federal ACL. If we're in a sole ASMFC proprietorship, then we've got to come up with some way to develop some type of ACL on our own; or with the help of the Science Center come up with another plan.

CHAIRMAN ESTES: Adam.

MR. NOWALSKY: The question of what we would do this time of the year, if I understand this correctly, qualifying for de minimis the state's recreational landings for two of the previous three years. We wouldn't be taking some; again if I understand this correctly, action at this time of the year, when the action would take place would be when we do the FMP review this time next year. We would have, because of the fact that this is an evaluation over three years. I think when one of these states north of Virginia that we plan to use de minimis, if they go over de minimis in one year, we don't have to take action. But we would start thinking about what we're going to do in that case.

If they go over it in two years, then at that point we would still have until the end of the following year when that FMP review takes place, when we would make a decision on whether we allow that state to be de minimis or not. We would have to have some plan in place by then; if I understand Option 3 correctly.

I'm not saying it's a great road to go down. I'm just saying I don't think it leaves us in an emergency situation as soon as Wave 4 data comes out. I think we've got a year plus to figure out how to accommodate it and we would have had warning the previous year. That is my interpretation, and again I'm seeing heads nod.

CHAIRMAN ESTES: That makes sense.

MR. CARMICHAEL: Yes I was going to make a similar point. Because of that two out of three, you have the chance to have that one year; and Adam summed that up nicely. If you're over that one year, you kind of know you've got a problem developing; and theoretically that will be addressed in the plan review. If you see that during that year that your numbers are still running high, well then, you have plenty of warning I think; that you may be coming off de minimis in time to figure out what to do about it.

DR. DANIEL: In the spirit of the original charge to provide the Commission the maximum flexibility, Option B gives you a choice, Option A doesn't. If you want de minimis, you don't have to decide today. If you select Option B, you can decide when you submit your request or declaration of de minimis, whether you want to match an adjacent state or not. Under A, you would be required to simply match an existing state's regulations.

CHAIRMAN ESTES: Dr. Duval.

DR. DUVAL: Under A, you would be required to simply go with 1 fish per vessel, and then select a size limit.

DR. DANIEL: The reverse, right.

CHAIRMAN ESTES: Lynn.

MS. FEGLEY: I'm just going to clarify one more time. Under A, a state may not match, so under A, we would have 1 fish per vessel per day.

DR. DANIEL: B gives you the choice.

CHAIRMAN ESTES: Roy.

MR. ROY W. MILLER: I need to clarify, make sure I understand what season would apply under these two options A and/or B. Can you help me out?

DR. DANIEL: Under A, there would be no season, 365 you've got 1 fish per vessel period. If you go with Option B, and elect to mirror Virginia's regulations, you might get an extra fish to the vessel, but you're also going to have to constrain your harvest to whatever season Virginia selects. The way it is right now and Joe can correct me if I'm wrong. I believe their season starts June 1, and then it goes into like September. You would be required to match that season, if that's what you selected.

CHAIRMAN ESTES: Roy.

MR. MILLER: As a follow up, what if the selection was B, and we chose the "or" section that says have 1 fish per vessel per trip. Does the season limit apply to the "or" segment?

DR. DANIEL: No.

CHAIRMAN ESTES: Rachel.

MS. DEAN: I wanted to clarify it, because I think when we were talking about the season, it also applies to the size. We would match the size.

DR. DANIEL: Everything on the recreational side.

CHAIRMAN ESTES: Lynn.

MS. FEGLEY: I was going to make a motion, and before I do just state again that I think what we're seeing here is that Option B offers a state the most flexibility; because they can either go with a non de minimis state, in terms of size, season and bag limit, or they can revert to the 1 fish per vessel per day with no seasonal constraints. **Given that I would like to make a**

**motion to adopt Sub-option B, the ability to match a non de minimis state.**

CHAIRMAN ESTES: Second, Roy. Mr. Clark.

MR. JOHN CLARK: I was just wondering if we could amend the motion to include the minimum size, Sub-option D, the minimum size is 29 inches for the recreational fishery for the de minimis option.

CHAIRMAN ESTES: Is that okay? Roy, are you good with that too?

MR. MILLER: Yes.

MR. CARMICHAEL: Shouldn't that clarify an adjacent, isn't that an adjacent non de minimis state?

CHAIRMAN ESTES: Yes.

DR. DANIEL: One point of clarification, and I stand to be corrected here. But the 29 would only apply if you select the 1 fish option, so you can't select the other state's option and then add a 29 inch.

CHAIRMAN ESTES: Adam.

MR. NOWALSKY: Based on previous actions, I would believe that if a state chose to implement a higher minimum size limit, because that's more conservative, they would have the ability to do so. But they could go no lower than 29 inches.

CHAIRMAN ESTES: That would be my understanding, right.

DR. DANIEL: Yes.

CHAIRMAN ESTES: Michelle.

DR. DUVAL: To Adam's point, you know I've had a little bit of conversation with Lynn about this. But I just wanted to put on the record that understanding that there if a state chooses to go with a 1 fish per vessel, and a 29 inch

minimum size limit. You know that might be something that I would want to see revisited; if it was selected for multiple years, because although I recognize that there are small fish up in the head of the bay. You know we also have small fish in Pamlico Sound as well. I would ask that those states consider in the future phasing in a higher minimum size limit to match the rest.

CHAIRMAN ESTES: Anymore discussion about this? Joe.

MR. CIMINO: I appreciate how much discussion I generated with my rather incomplete thought last time around. Specifically what I was getting at was my concern that basically a fishery evolves around this smaller size limit that may eventually pull somebody out of de minimis status. Then it will take a certain amount of time for us to find that; and then a certain amount of time for action to be taken.

I think perhaps most comments we've received in Virginia this year regarding cobia was to do something about what's happening in Maryland. I don't really know that this gets us there in the near future; because my guess is that by the time MRIP catches up and three-year averages catch up. We're talking quite a few years before they have a similar minimum size to Virginia. I certainly have a concern with that last part of the motion.

CHAIRMAN ESTES: Adam.

MR. NOWALSKY: I just wanted to put on the record that in New Jersey we have no other per vessel recreational regulations. I'm not sure what our ability is in state to regulate on a per vessel basis; not saying we can't. Just we have no other regulation that looks like that so I'm not sure what we would need to do to accomplish that.

CHAIRMAN ESTES: More discussion. Let me read the motion. **Move to adopt Sub-option B, the ability to match an adjacent non de minimis state, and Sub-option D, recreational**

**minimum size of 29 inches; motion by Ms. Fegley, second by Mr. Miller. Can I see a show of hands for those that support this motion; those that oppose, abstentions, null votes? Motion passes 5 to 1 to 3. Okay, good job, Louis.**

DR. DANIEL: Just a little bit longer here. I would just say that for those areas that are encountering those small fish, the importance of those fish for the genetic analysis and collecting samples especially in Pamlico Sound, and especially in the upper Bay. You know if we can encounter those fish and can get samples from them, either from the recreational fishery or from our own state samplers; that's awesome.

That takes us through the action items for the FMP. I misspelled compliance. Key dates: so you agreed and in the FMP it indicates that states will submit their implementation plan for Technical Committee review and Board approval by January 1, of 2018, and that April 1, 2018 would be the implementation date for the approved plans by the states; recognizing that there are some with legislative issues, I'm sure.

Then after discussion with the Plan Development Team, the compliance reports are due, not until July 1. Finally, back when we first started this, and because the Plan Development Team and the Technical Committee were essentially the same folks, we worked with that group. But now we need to go ahead and constitute what will be the longstanding Technical Committee.

At present those folks whose names were submitted was Ryan Jiorle from Virginia, Steve Poland from North Carolina, Mike Denson from South Carolina, and Chris Kalinowsky, representing the state of Georgia. That is your current Technical Committee roster. If there are other folks that anybody outside of those states would like to see on the Technical Committee, you can get with me or Mike Schmidtke, sorry you e-mail Toni and let us

know. I think that covers my part, Mr. Chairman, unless there are questions for me.

CHAIRMAN ESTES: Thank you, I think we just need to approve the plan as amended; if somebody would have a motion to do that. Robert.

**MR. BOYLES: I would move that the South Atlantic Board approve the plan as discussed this afternoon.**

CHAIRMAN ESTES: Second. Michelle. Adam.

### PUBLIC COMMENT

MR. NOWALSKY: I know we had your comments earlier about public comment; but knowing that a number of people did travel, perhaps there might be the ability for the audience to get one person up, make a brief statement and have a show of hands of people that might support it; if you might allow that Mr. Chairman.

CHAIRMAN ESTES: Yes we're behind, but yes that is certainly, I appreciate you fellows coming. Whoever your spokesperson might be, I'll give you two minutes.

MR. BILL GORHAM: I'm Bill Gorham with Bowed Up Lures; from the Outer Banks of North Carolina. Over the past three years I've had the honor to represent stakeholders up and down North Carolina, a lot in Virginia, but not all in Virginia, and a few in Maryland. I am on the Sub Panel AP for Cobia. It's a Cobia AP within the South Atlantic and Citizen Science AP. Thank you for the opportunity to speak. I would like to say, and put on the record, our major concern in North Carolina and Virginia is that a lot of this is based upon the notion that we were going to full management; the Atlantic States will take over full management. Unfortunately you have the east coast of Florida and the Gulf already voicing their opposition to it. For the two largest stakeholder states, you know we run a real risk of losing a great deal of access, whether it be next year or in three

years, and given the overwhelming conflicting science on the management parameters and allocation.

Lastly, I would like to state about the MRIP numbers. The fourth wave did just come in and we are below those amounts. I think it kind of makes the argument of extremely outrageously high catch totals being justification and all, when this year we actually went less restrictive than last year and we're under those catch totals. Again, thank you.

CHAIRMAN ESTES: Thank you, Sir. Robert.

MR. BOYLES: Just a question per say Mr. Gorham's comment. Do we actually have the preliminary numbers for Wave 4 for cobia? Could somebody share those with me?

CHAIRMAN ESTES: Does this influence your acceptance of the – okay. Michelle.

DR. DUVAL: Just to address Robert's question. For North Carolina the MRIP totals, we only have harvest in Waves 3 and Wave 4; but that would be 7,356 fish, which is below the soft target by just about 2,000 fish that was selected. That equates to MRIPs estimate of pounds is 261,516 pounds; which is above the poundage estimate. But I would also note the average weights were extremely high, 35 pounds per fish. I think that is one of the discrepancies that stakeholders have taken issue with as well.

CHAIRMAN ESTES: Mike is looking up the numbers right now.

MS. TONI KERNS: Robert, do you want pounds or numbers of fish?

MR. BOYLES: Pounds, please.

MS. KERNS: Can you read that?

MR. NOWALSKY: Do we want to include the Gulf States here or only the Atlantic states?

MS. KERNS: I can get rid of the Gulf.

MR. CIMINO: Mr. Chair.

CHAIRMAN ESTES: Yes, Sir, do you have it?

MR. CIMINO: Just some quick math from yesterday when we were looking at this. I believe for Georgia through New York, the estimate for this year is about 534,000 pounds. We're standing at about 85,500 pounds under the ACL. We haven't had a Wave 5 estimate in recent years above 30,000 pounds, so good sign.

CHAIRMAN ESTES: Are you good, Robert?

MR. BOYLES: Yes, Sir, thank you.

CHAIRMAN ESTES: Okay let's call the question then.

DR. RHODES: But for the record, Georgia and South Carolina had zero landings, which helps.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Mr. Chairman, I think you'll need to reread the motion in. We made a change about forwarding it to the Commission.

**CHAIRMAN ESTES: Okay, the motion is: Move to recommend to the Commission the approval of the cobia fishery management plan as amended today; motion by Mr. Boyles, seconded by Dr. Duval. Is there any opposition to the motion? Do we need to do a roll call then, I guess is the question.** Yes.

MR. NOWALSKY: Like we did on the last motion, New Jersey will be abstaining here; just because of our lack of knowledge right now on our ability to implement.

CHAIRMAN ESTES: **Okay, motion passes with one abstention; thank you.** I would like to thank Mike and Dr. Daniel and their team for all the hard work on this. We've also learned today that Dr. Daniel is pretty good at making

little graphics; so we'll have to use him in the future for those things.

DR. DANIEL: Yes, I will say that you can't appreciate what goes into these plans until you've done one.

### STOCK ID WORKSHOP

CHAIRMAN ESTES: Okay next agenda item, we're a little bit behind here. Stock ID Workshop, Mike is going to talk about that real briefly.

MR. MIKE SCHMIDTKE: Louis already pointed out the TC membership as it stands right now; and again we'll be looking for any states that do not have a TC member currently. Please speak with Toni about getting an appointee onto the TC. The SEDAR 58 stock assessment process for cobia is in the planning process right now; and right now specifically we are planning the Stock ID Workshop that has involvement from ASMFC, the South Atlantic Council, as well as the Gulf Council.

At the end of this month there will be an e-mail going out from SEDAR requesting appointments for the Stock ID Workshop. SEDAR is willing to fund a certain number of appointments that are put up by the Commission. I just wanted to have that announcement out there, so everybody can be aware. An e-mail will be going out. I'll be asking for appointments from the Commission.

Along with that there will be details, as far as internal deadlines that we'll need to meet to get to a final appointment date of December 8. That's when I have to have appointments sent over to the folks at SEDAR. Please be thinking of people that you potentially want to appoint that are experts in Stock ID. There will be a suggested participant list sent out with that e-mail; as well as additional details.

CHAIRMAN ESTES: Are there any questions? Okay seeing none; we'll move on. Lynn, I think

you're up to talk about black drum, if you would please?

#### **REVIEW MARYLAND PROPOSAL FOR BLACK DRUM COMMERCIAL HARVEST**

MS. FEGLEY: Well, as you all are probably aware, the state of Maryland submitted a proposal to the Black Drum Technical Committee to reopen what is a preexisting and historic black drum fishery in our state. We're proposing to do this in a limited way. I want to just say for the record, before I go through this brief presentation that our intention here is to initiate an addendum to change the plan; so that we can do this.

If that is approved, and the addendum goes through, then it will provide the state of Maryland with the authority and the ability to pursue this; although what might actually occur is something maybe a little bit less in scale than what we're proposing, although what we're proposing is fairly small.

Just as a background, our drum fishery occurs in the early part of the summer. It has been closed for many years; and in the late '90s we implemented a tagging study to gain some biological information about this animal. When we did that we prohibited the harvest of black drum; but in exchange what we did was we bought the fish back from the watermen so that they couldn't harvest them, but they would contact us.

We would tag them and we would release them. That study ended in 1999, but we never changed the regulation to reopen that fishery. When the ASMFC took on black drum, and adopted the interstate plan; that plan froze all of the states where they were, with the idea that new fisheries would not emerge.

The state of Maryland essentially wound up with a commercial moratorium; the only one of the states with that situation. We have had periodic requests from the commercial fisheries to reopen black drum harvest; but it's a very

small fishery. It was a low priority, and then as I said, when the FMP was adopted we were frozen in that moratorium status.

A little bit of the regulatory history in Maryland. Prior to 1994, we had no regulations on this animal. In 1994, a 30,000 pound commercial cap in Chesapeake Bay, with a 1 fish per person per day recreational limit was adopted. In 1998, the commercial fishery was closed except for those scientific studies that I mentioned.

We also put in place a 1,500 pound cap for the Atlantic Ocean; and then there was the addition of a 6 fish vessel limit for recreational fishermen. Then there we were in 1999; the buy-back program ended. The tagging study ended, and the Chesapeake Bay commercial fishery remained closed. Our proposal now is to reopen this fishery at a more restricted level of harvest; the idea is to restrict it to 10 fish per vessel per day, with a 28 inch minimum total length size limit.

Just to justify the vessel limit. The tagging study, which was short in duration, it went from 1995 to 1997. We had a mean weight of just shy of 47 pounds. At this level, 10 fish would be approximately a 500 pound vessel limit; which is approximately equivalent to what is in place in North Carolina and Florida.

But it is worth noting that our longer time series, hang on a second, right and also the mean length, our longer time series shows that we have somewhat smaller fish over that longer time period the fish are smaller; so that if you account for that inter-annual variability, 10 fish in most years will likely be less than 500 pounds. In terms of the size limit we selected, we're proposing a minimum size of 28 inches. This is the length of 100 percent maturity to prevent increasing mortality on sub-adult black drum. The pound net study that we've done over that long period of time, the 25 years from 1993 to 2016, shows that at a 28 inch minimum size, we would have approximately a 37 percent release rate from the pound net. That level was quite a bit lower in that short term tagging

study; but we are hopeful, we believe that this more conservative length limit than our neighboring jurisdictions will provide a buffer of protection.

Just in terms of historic landings. From 1973 to 1997, again when we were essentially unregulated, our landings ranged from 0 in just one year all the way up to 41.5 thousand pound; with an average of approximately 11.5 thousand pounds. There is extremely high inter-annual variability, and again the fishery was mostly unregulated, and with this 10 fish per vessel per day and the size limit, we would expect lower landings going forward, if this were to be approved.

Just a little bit about the estimated impact of this proposal coastwide. The stock status, it's not overfished and overfishing is not occurring. There is a target of 2.12 million pounds, and a threshold harvest level of 4.12 million pounds. In 2015, the coastwide landings were 1.49 million pounds; that's under the target.

If you think back to the slide I just showed, assuming Maryland's mean and maximum landings as the range of landings added, we would estimate that the 2015 landings would have been between 1.5 and 1.3 million pounds. The point being that the magnitude of the Maryland fishery would not add substantially to the total, and at least in 2015, certainly would not have pushed us close to that target.

CHAIRMAN ESTES: First, if we can, we'll take questions about this issue and then Mike is going to give a review, the TC looked at this. Then we can have a discussion and see if we want to take action. John.

MR. CLARK: Lynn is this going to be restricted to pound nets, this fishery, or will you allow any gear to be targeting black drum?

MS. FEGLEY: It would be predominantly a bycatch fishery in the pound net fishery. These fish would not be susceptible to gillnets that are

used during these time of year. The mesh sizes just don't align.

CHAIRMAN ESTES: Yes, follow up.

MR. CLARK: But is there anything restricting a gill netter from getting 10, 12 inch mesh and putting it out there at that time?

MS. FEGLEY: I don't believe so. I think with a 10-fish daily limit, I don't think it would be worth gearing up. I would need to check, but I'm not sure that our regulations allow mesh size that large at that time of year.

CHAIRMAN ESTES: Chris.

MR. CHRIS BATSAVAGE: Two questions. One, did Maryland I guess look at any of the MRIP average length or average weight estimates in recent years; just to get a sense of has the size distribution of black drum changed in recent times? Assuming the recreational fishery is catching what's available to the upper portion of the Bay. The second question is has the pound net fishing effort in recent years decreased; compared to when there was a commercial black drum fishery in the Bay?

MS. FEGLEY: I would defer the MRIP size distribution question to the TC. I am not aware that we looked at that. Pound net effort, I would suspect, although I don't have numbers, has decreased since those early '90s. There are not that many of those guys left around in Maryland.

#### **TECHNICAL COMMITTEE REVIEW OF MARYLAND PROPOSAL**

CHAIRMAN ESTES: Other questions. I don't think we have the information about the size distribution, Chris. Other questions, okay, Mike if you want to go through TC Review.

MR. SCHMIDTKE: The TC met at the end of September via webinar to discuss the Maryland proposal. There were several components of the proposal that were discussed. I don't have

the information at hand to answer Chris's question; but it may be covered in that call summary that was in supplemental materials, so that may be a quick reference there.

Some of the topics that were addressed on this call were potential harvest levels; the gears of the participants that would be in this fishery, market impacts, and biological monitoring for this fishery. Ultimately the Black Drum TC recommended that the Maryland proposal to reopen their commercial black drum fishery in the Chesapeake Bay be approved, as reopening of this historic fishery would not likely lead to overfishing of the stock.

The TC did further recommend that biological monitoring of black drum caught in this fishery be conducted to collect information like size or age. This would be helpful information, especially with right now a scheduled stock assessment for, I believe, 2020. Within the FMP for black drum there is no biological monitoring requirement.

But I know biological monitoring is conducted by several states, and after talking to the Maryland TC rep, the pound nets, which would be the predominant gear in this fishery, are already monitored for other species. He said that it wouldn't be too much of an issue to also look at the black drum that is caught in those nets as well.

CHAIRMAN ESTES: Questions for Mike, discussion of this issue. Yes, Joe.

MR. CIMINO: I support this. I had the opportunity to be part of the Plan Development Team for this FMP, and also on the Stock Assessment Subcommittee. You know when we looked at the harvest for this species; I think one of the things we realized is this is a fish where effort has shifted.

You know traditionally for the lower portion of the Chesapeake Bay, this was one of our most important fisheries. As Delaware Bay started to see increases in their fishery, and concern for

the stock, what we really realized was that it really has shifted away from the lower Bay. I think that this stock can handle this small amount of effort; and I think it's going towards a place where part of this fishery is really occurring.

I have support for that. I was surprised that it would be an FMP amendment or addendum, however this goes. It gave me a chance to look at the FMP again. I was also surprised to see credit given to some ghost writer. I think maybe the Board can consider a technical addendum to put Mr. Cimino as one of the PDT members and not Mr. Cimono, just a thought.

CHAIRMAN ESTES: Toni, it is my understanding that this would require an addendum; is that correct?

MS. KERNS: Yes it would.

CHAIRMAN ESTES: Okay, what is the will of the Board? Is there somebody who would like to put forward a motion? Yes, Ma'am.

**MS. FEGLEY: Thank you, Mr. Chairman, and thank you to the Board for your time in listening to this. I would make a motion to initiate an addendum that would allow Maryland to reopen its preexisting commercial black drum fishery under a 28 inch minimum size, and a 10 fish daily vessel limit.**

CHAIRMAN ESTES: Seconded by Malcolm Rhodes. Is there any discussion of the motion? **Okay, move to initiate an addendum that would allow Maryland to reopen its preexisting commercial black drum fishery, under a 28 inch minimum size limit and a 10 fish daily vessel limit. Motion by Ms. Fegley, seconded by Dr. Rhodes, is there any opposition to the motion? Motion passes unanimously. Toni.**

MS. KERNS: I just wanted to ask Lynn about timing. I was under the impression that this was wanted for this year's fishery. What would



be the timing that you would want this to be approved by to impact your fishery?

MS. FEGLEY: I think if we could get it through as expeditiously as we could. I think my initial thought was it was something that we could look at in February; just in terms of our process. Once an addendum is approved by the Board, if it is, then the process would be that Maryland would go forward and start our public process to change those regulations. If we can start it this winter that would be great; but obviously staff workload is an issue. To be short, February would be ideal; but if it takes longer than that then that's okay too.

MS. KERNS: You said approval in February; approval for public comment or approval of the full document?

MS. FEGLEY: I guess it would be approval for public comment in February; and then approval of the addendum in the spring.

MS. KERNS: That we can do. I think your proposal covers most of our work.

#### **PROGRESS REPORT ON POTENTIAL ADJUSTMENTS TO ATLANTIC CROAKER AND SPOT TRAFFIC LIGHT ANALYSIS**

CHAIRMAN ESTES: Having dispensed with that the next agenda item is Jeff is going to talk to us about Croaker and Spot Traffic Light Analysis.

MR. JEFF KIPP: I just have a really brief update for the Board here. The Croaker Technical Committee and Spot PRT have continued working on potential changes to the Traffic Light Analysis. We met on a call a couple weeks ago, webinar, and plan to continue work on that and have recommendations for the Board at the winter meeting. If there are any questions about that I can take those now.

#### **CONSIDER 2017 FMP REVIEWS AND STATE COMPLIANCE REPORTS**

CHAIRMAN ESTES: Questions, okay seeing none; we'll move right along. Our next agenda item is FMP reviews for black drum, red drum, and spotted sea trout. Mike, you're doing that I believe.

#### **BLACK DRUM**

MR. SCHMIDTKE: We'll go through all three of the species. I have a pre-prepared statement for all three of the species that we can address after we're done with all three FMP reviews. But first we'll look at black drum. The graph that you see up on the screen shows black drum harvest within the management unit from New Jersey to Florida.

What we see is that there was a slight decrease in total harvest. There was a slight increase in the recreational, but a decrease in commercial harvest. I apologize, because I am not able to follow my notes right now. Moving on to the recreational; looking specifically at the recreational fishery. There are a high percentage of releases in this fishery.

It has continued to have an upward trend since the 1980s; with overall harvest remaining approximately the same, with some variability. Here we see the results of the 2015 black drum stock assessment; where we can see that the biomass is above the threshold. The overfishing limit is 4.12 million pounds; and we have not exceeded that in the recent time period.

The black drum FMP was instituted in 2015. In 2016 all states were required to increase the minimum size limit to at least 14 inches; and these are the management measures that were in place in 2016. As you can see, all states were within compliance with the FMP. No states requested de minimis status through the annual reporting process.

Therefore, the PRT recommends that the Board approve the 2017 black drum FMP review and state compliance reports. There are an assortment of other research and monitoring recommendations found within the FMP

review. If anybody has any black drum comments or questions, I will attempt to answer those. I may have to grab a copy of the FMP review to do so.

CHAIRMAN ESTES: Questions. No questions.

### **RED DRUM**

MR. SCHMIDTKE: Moving on, the next species is red drum. Total red drum landings from New Jersey through the east coast of Florida in 2016 are estimated at 2.2 million pounds. This is a roughly 620,000 pound increase from 2015, and is above the previous 10-year average of 2 million pounds.

The commercial and recreational fisheries harvested 4 percent and 96 percent of the total respectively. Coastwide commercial landings have ranged from approximately 55,000 to 440,000 pounds annually over the last 50 years. In 2016, coastwide commercial harvest decreased from 81,000 pounds in 2015 to 79,000 pounds, with 98 percent of that coming from North Carolina.

In 2016, 80 percent of the total landings came from the South Atlantic region, where the fishery is exclusively recreational, and 20 percent from the Mid-Atlantic region. Very few commercial landings of red drum have been recorded in states north of Maryland in recent years. Historically the major commercial harvesters have been North Carolina and Florida; however commercial harvest has been prohibited in Florida under state regulations since 1988. South Carolina also banned commercial harvest or sale of native-caught red drum beginning in 1987, and in 2013, Georgia designated red drum a game fish; eliminating commercial harvest and sale there as well.

Recreational harvest of red drum peaked in 1984, at 1.05 million fish or 2.6 million pounds. Since 1988, the number has fluctuated without trend between 250,000 and 760,000 fish. In 2016, recreational harvest increased from 426,000 fish in 2015 to 566,000 fish in 2016.

The 2016 harvest is higher than the 10-year average for recreational harvest in numbers and pounds.

Florida anglers landed the largest share of the coastwide recreational harvest in numbers; followed by Georgia and South Carolina. Anglers release far more red drum than they keep. The percent of the catch released has been over 80 percent for the last decade. Recreational releases show an increasing trend over the course of the time series.

But it has plateaued over the last 15 years or so, outside of a spike in 2012, 2.6 million fish were released in 2016, composing 82 percent of the recreational catch. This represents an increase in the number of releases; but a decrease in the proportion released from 2015. It's estimated that 8 percent of released fish die as a result of being caught; resulting in an estimated 207,000 dead discarded fish in 2016.

Recreational removals from the fishery are thus estimated to be 773,000 fish in 2016. A stock assessment was completed within the last year. At present only an overfishing status can be determined for red drum. The 2017 assessment indicated that abundance of young fish from both the northern and southern stocks have remained fairly stable since 1991; and static spawning potential ratio has been above the overfishing threshold since 1995.

Therefore, neither stock is likely experiencing overfishing at this time; although the SAS and PRT both note a great amount of uncertainty in static SPR for the southern stock in particular. Here is a reminder of the management history for red drum. In 1984 the FMP was established; with implementation of recommended management measures in 1988.

Amendments 1 and 2 defined and redefined optimal yield; in terms of spawning stock biomass per recruit, as well as SSPR respectively. Amendment 2, which is the current amendment, also established the 27 inch maximum size limit. Finally, in 2013,

Addendum 1 revised the habitat section of Amendment 2, to include red drum spawning habitat and life stage information; as well as identify habitats of concern.

These are the management measures that were in place for 2016; which are also found in Table 1 of the FMP review document. All states that harvest red drum did so with a maximum size limit of 27 inches or less; which is in compliance with Amendment 2. Under Amendment 2, a state may be granted de minimis status; if the board determines that action by a state with respect to a particular management measure, which was implemented subsequent to Amendment 2 through an addendum, would not contribute significantly to the overall management program.

This criterion does not define any time period, percent, or fishery specifically; but the PRT over the last few years has evaluated states contributions to the fishery, by comparing each state's 2-year average of combined commercial and recreational landings to that of the management unit. They do so with a threshold typically of 1 percent of the management unit. New Jersey and Delaware have both applied for, and under this criteria, qualify for de minimis status. The PRT would recommend that all states have implemented requirements of Amendment 2, and that the Board approve state compliance reports and de minimis status for New Jersey and Delaware. I'll take any questions on red drum.

CHAIRMAN ESTES: Questions or comments on red drum. Okay seeing none; proceed please.

#### **SPOTTED SEA TROUT**

MR. SCHMIDTKE: Okay, one more species, and that would be spotted sea trout. The graph you see represents spotted sea trout harvest within the management unit from Maryland through Florida. As you can see, recreational harvest increased from 2015 through 2016. In addition, commercial harvest increased from 2015

through 2016; with North Carolina landing the majority of commercial harvest.

Recreational harvest has been relatively stable throughout the time series; with a 1.3 million fish average; 2016 harvest recreationally was 1.1 million fish, at approximately 1.9 million pounds. North Carolina and Florida have the greatest recreational harvest in numbers; with about 34 percent and 30 percent respectively. Releases have increased since the 1980s, but have been fluctuating without trends since the mid-2000s.

There were 85 percent of recreationally caught fish released in 2016; which is down from a time series high of 91 percent in 2015, but above the previous 10-year average of 82 percent. Due to disproportionate numbers of releases versus harvest, trends in recreational catch largely followed those of releases; which have been increasing since the 1980s, to an annual fluctuating but stable level for the past 10 years, 7.3 million fish were caught in 2016, which is a 29 percent increase from 2015.

No coastwide stock assessment has been conducted for spotted sea trout; due to their life history and migration or lack thereof, migration patterns, in addition to data availability that would cross many jurisdictional lines. In 2014, Virginia and North Carolina collectively conducted a stock assessment; and a new stock assessment is currently underway in the state of Florida that is expected to be finished at the end of this year.

In Table 1 of your FMP review, you can see the management measures that were in place in 2016. All states complied with the 12 inch minimum length from the FMP. De minimis status is determined from a 3-year average of combined commercial and recreational landings; as long as landings are beneath 1 percent of the coastwide total of commercial and recreational.

Requests for de minimis status were received from New Jersey and Delaware; and both states

qualify under this criterion. The PRT has found that and recommends that the Board find all states in compliance with the FMP; as well they would recommend that the Board approve state compliance and de minimis requests from New Jersey and Delaware. With that any questions about the spotted sea trout FMP review, I believe that the spotted sea trout management question is something that would be addressed later in the meeting.

CHAIRMAN ESTES: Questions. Malcolm.

**DR. RHODES: Not a question, but if you would like, I would like to move that we accept the FMP review and state compliance reports for black drum, red drum, and spotted sea trout; as well as approving de minimis requests for New Jersey and Delaware for red drum and spotted sea trout.**

CHAIRMAN ESTES: Second by Mr. Batsavage. Dr. Rhodes, you have an amazing memory.

DR. RHODES: I thought you were going to call on me if I didn't do it anyway; whether I was paying attention or not.

CHAIRMAN ESTES: **Okay, move to accept the 2017 FMP reviews and state compliance reports for black drum, red drum, spotted sea trout; and approve de minimis requests for New Jersey and Delaware for both red drum and spotted sea trout. Motion by Dr. Rhodes, second by Mr. Batsavage, is there any discussion on this? Is there any opposition to the motion? Seeing none; the motion passes unanimously.**

#### **DISCUSS REMOVAL OF SPOTTED SEA TROUT FROM COMMISSION MANAGEMENT**

CHAIRMAN ESTES: Okay, I guess we're going to go back to spotted sea trout. Dr. Duval, I think you were going to lead this discussion, is that correct?

DR. DUVAL: I just wanted to raise again an issue that came up, I believe, in November of 2015.

The Board had considered a motion to consider I guess retiring the spotted sea trout fishery management plan. We then postponed that motion; in order to allow states to sort of get their regulatory houses in order, so to speak, and North Carolina was one of those states.

We have since reinstated regulatory authority for spotted sea trout; effective May 1 of this year. I know there had been some other states around the table that had expressed interest in exploring this further, and I know that staff reached out to the states sitting around the table to determine if they did have the authority to regulate spotted sea trout in their waters if the ASMFC fishery management plan were to be retired.

I understand that Delaware does not have the ability to regulate spotted sea trout without that authority. We're obviously sensitive to this, and don't want to move forward with removal of a species from under ASMFC management, if it's going to disadvantage another state, in terms of their ability to regulate this fishery.

A couple of the things that we considered in North Carolina, and just wanted to throw out for thinking about and chewing on, for a future South Atlantic board meeting, and very sensitive to Mr. Woodward's note that we've been able to manage seven species within our allotted timeframe, so I'm going to be really quick here.

I think one of the issues for us has been establishment of restrictions, or management measures that are more restrictive than federal. While ASMFC is not a federal body, the same type of restriction applies to ASMFC management measures. In North Carolina there is statutory language that does disallow us from implementing measures that are more restrictive than the minimum measures that are required under another fishery management plan.

In looking at the FMP review for spotted sea trout, I think the majority of states actually have minimum size limits that are higher than the required 12 inches. I think maybe Delaware and New Jersey are the only two that don't have a 14 inch minimum size limit. One of the things that we thought about was perhaps if the Board might be willing to entertain a future addendum that could raise that minimum size limit; perhaps phase in a higher minimum size limit of 14 inches, similar to what we did with black drum, to allow other states to perhaps raise their minimum size limits, to perhaps consider maybe a maximum bag limit.

In deference to the fact that particularly Delaware does not have the authority to manage this species without the ASMFC plan. Those were some of the things that we were thinking about. I think it would certainly provide North Carolina a little bit more cover and flexibility if the ASMFC plan stays in place.

CHAIRMAN ESTES: Questions or discussion. Seeing none; what is the will of the Board; do we just leave this silent? Yes, Ma'am.

DR. DUVAL: Not that I want to keep talking, but perhaps this is something that we could discuss with staff and see about having as a future agenda item. I mean clearly we don't have enough time here to discuss it; but I think maybe if Delaware and perhaps New Jersey can take that back home and maybe chew on those two suggestions, and see if down the road we might be interested in doing something like that. I see Toni with her hand raised.

MS. KERNS: It's the will of the Board of how we would or would not make changes to the plan; but I will note that if we do consider making changes to this plan for this year, and need to do public hearings up and down the coast. Our budget is a little tight for next year, so just to note that it might be for action in next year's action plan if we can't combine it with something else.

CHAIRMAN ESTES: John.

MR. CLARK: I'll be brief. As far as Delaware is concerned, if we are so minor a player in this whole thing. We have a 12 inch size limit in place. If the plan went away, the regulation would stay in place. It's just that we couldn't change it once the plan was no longer in affect. But again, I think we had 7 pounds landed from our MRIP last year, so we're not going to be hurting anything.

CHAIRMAN ESTES: Okay, what do you want to do? Do you want to slow roll this and put it on the action plan next year? I see some heads nodding. Okay, is anybody opposed to that? Toni, all right I think that does it with that issue.

#### **ADJOURNMENT**

CHAIRMAN ESTES: I think that brings us to the end of our agenda; if I remember right. I was young when I started this. Is there any other business before the Board? Seeing none; the Board is adjourned.

(Whereupon the meeting adjourned at 2:56 o'clock p.m. on October 19, 2017)

# ***Atlantic States Marine Fisheries Commission***

## **Interstate Fishery Management Plan for Atlantic Migratory Group Cobia**



**ASMFC Vision:  
Sustainably Managing Atlantic Coastal Fisheries**

**November 2017**

## Interstate Fishery Management Plan for Atlantic Migratory Group Cobia

Prepared by  
Atlantic States Marine Fisheries Commission  
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This Plan was prepared under the guidance of the Atlantic States Marine Fisheries Commission's South Atlantic State/Federal Fisheries Management Board, Chaired by Jim Estes of Florida and Advisory assistance was provided by the South Atlantic Species Advisory Panel Chaired by Tom Powers of Virginia.

This is a report of the Atlantic States Marine Fisheries Commission pursuant to U.S. Department of Commerce, National Oceanic and Atmospheric Administration Award No. NA15NMF4740069.



## EXECUTIVE SUMMARY

**INTRODUCTION:** The Atlantic States Marine Fisheries Commission (Commission) has developed an Interstate Fishery Management Plan (FMP) for Cobia, under the authority of the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA). Management authority for this species is from zero to three nautical miles offshore, including internal state waters, and lies with the Commission. Regulations are promulgated by the Atlantic coastal states. Responsibility for compatible management action in the exclusive economic zone (EEZ) from 3-200 miles from shore lies with the South Atlantic Fishery Management Council (SAFMC) and NOAA Fisheries under their Coastal Migratory Pelagics Fishery Management Plan (CMP FMP) under the authority of the Magnuson-Stevens Fisheries Conservation and Management Act.

**STATEMENT OF THE PROBLEM:** Cobia management has historically been considered precautionary through the Gulf of Mexico and Atlantic Coastal Migratory Pelagics FMP. Both sectors of the fishery have been managed with a 2 fish possession limit and 33" fork length (FL) minimum size since formal management began in Amendment 6 to the Coastal Migratory Pelagics FMP in 1990. The Annual Catch Limits (ACL) and Accountability Measures were established through Amendment 18 (GMFMC/SAFMC 2012). The 2013 stock assessment conducted through the Southeast Data Assessment and Review (SEDAR) process indicated overfishing was not occurring and that the stock was not overfished although trending steadily downward over the previous two decades. Additionally, the stock assessment used a different stock boundary that was implemented into the FMP along with the updated ACLs in Amendment 20B (GMFMC/SAFMC 2014). The current ACL is a precautionary approach to prevent the stock from reaching an overfished status. The recent overage in 2015 exceeded the SAFMC's defined Overfishing Limit. Further quota overages could lead to the stock becoming overfished.

Efforts to more closely monitor state specific harvest to ensure that quotas are not exceeded and that overfishing is averted is the Commission's primary focus. Further, by developing a Commission plan, the impacts of a single, federal closure may be mitigated through state-specific measures designed to maintain traditional seasons at reduced harvest rates. The proposed interstate FMP considers potential management measures to maintain a healthy resource while minimizing the socio-economic impacts of seasonal closures.

**IMPLEMENTATION BENEFITS:** Implementation of the FMP and effective management of cobia will produce ecological, cultural and economic benefits. Ecologically, cobia are a moderately lived species and can contribute to the population if allowed to reach older ages through regulatory protections across the range of the population and age classes. Cobia support a valuable recreational and for-hire fishery and primarily bycatch fishery in the south and mid-Atlantic regions. The implementation of a management program will maintain social and economic benefits to the fishing communities involved by ensuring a fishery for the future generations.

**DESCRIPTION OF THE RESOURCE AND MANAGEMENT UNIT:** Cobia are the only representative of the family Rachycentridae that occurs off the US east coast. While cobia occur throughout



the temperate oceans of the Gulf and Caribbean, genetic information indicates a distinct population segment that occurs from the Georgia-Florida line through New York. Consequently, the management units for cobia under this FMP is defined as the range of the species within U.S. waters of the northwest Atlantic Ocean from the estuaries eastward to the offshore boundaries of the Exclusive Economic Zone (EEZ) from the Georgia-Florida line through New York.

**LIFE HISTORY AND HABITAT REQUIREMENTS:** Cobia are fast growing, moderately lived fish that occur throughout state and federal waters along the Atlantic coast. As adults, cobia have a protracted spawning season that begins in May. Habitats used by cobia are not well-known during early life stages. Larvae and juveniles may be found in coastal or estuarine waters; however, large concentrations are seldom encountered. Adult cobia travel widely and encounters from locations up coastal rivers to natural and artificial reefs offshore are common.

**GOALS AND OBJECTIVES:**

*Goal:* The goal of the Cobia FMP is to provide for an efficient management structure to implement coastwide management measures in a timely manner and complement cobia management in federal waters, which uses Allowable Catch Limits (ACL) established by the SAFMC.

*Objectives:*

1. Provide a management plan that achieves the long-term sustainability of the resource and strives, to the extent practicable, to implement and maintain consistent coast wide measures, while allowing the states the flexibility to implement alternative strategies to accomplish the objectives of the FMP
2. Provide for sustainable recreational and commercial fisheries.
3. Maximize cost effectiveness of current information gathering and prioritize state obligations in order to minimize costs of monitoring and management.
4. Adopt a long-term management regime which minimizes or eliminates the need to make annual changes or modifications to management measures.
5. Provide a flexible management system to address future changes in resource abundance, scientific information, and fishing patterns among user groups or area.

**OVERFISHING DEFINITION:** The most recent, 2012, cobia stock assessment (SEDAR 28) indicates a decline in population biomass estimates but does not indicate that the stock is overfished or that overfishing is occurring. A new stock assessment is scheduled for 2019, which will be preceded by a stock identification workshop in 2018.

**MONITORING PROGRAM SPECIFICATIONS:** The Cobia Technical Committee will meet annually, or as necessary, to review state management program changes, developments in the fishery, or other changes or challenges in the fishery. The Cobia Technical Committee will work closely with the SAFMC's Science and Statistics Committee to review and update or perform benchmark stock assessments on the cobia stock. This schedule may be modified as needed to incorporate new information and consideration of the cobia's biology.

The Cobia Plan Review Team (PRT) will annually review implementation of the management plan and any subsequent adjustments (addenda), and report to the Management Board on any compliance issues that may arise. The PRT will also prepare the annual Cobia FMP Review and coordinate the annual update and prioritization of research needs (see Section 6.2).

**BYCATCH MONITORING AND REDUCTION:** Currently, the cobia recreational fishery tends to be a targeted fishery and cobia catches in the commercial have historically been a bycatch in other directed fisheries. Current effort indicates more directed fisheries, even at low vessel limits, are increasing. While this FMP does not specify any measures to specifically reduce cobia bycatch and subsequent discard mortality, the FMP provides a summary of actions states may consider to address these issues in their respective jurisdictions.

**REGULATORY PROGRAM:** States and jurisdictions must implement the regulatory program requirements as per Section 7. The Management Board has the ultimate authority to determine the approval of a regulatory program. States and jurisdictions must also submit proposals to change their required regulatory programs as per Section 7.1.2. The Management Board will determine final approval for changes to required regulatory programs.

**RECREATIONAL FISHERIES MANAGEMENT MEASURES:** All states must establish a 1 fish bag limit, 36 inch FL minimum size limits (or equivalent TL measurement), and a maximum vessel limit by April 1, 2018. A coastwide recreational harvest limit will be allocated to non-*de minimis* states as state-specific recreational harvest targets. States will establish season and vessel limits to restrict harvest to the harvest target, and adherence to harvest targets will be evaluated as average annual harvest over a 3-year timeframe.

**COMMERCIAL FISHERIES MANAGEMENT MEASURES:** All states must establish a 33 inch FL minimum size limit and a 2 fish per person possession limit with up to a 6 fish vessel limit.

**THREATS TO COBIA HABITAT:** Threats to Cobia habitats may include the following: loss of estuarine habitats; coastal development; nutrient enrichment of estuarine waters; poor water quality; beach re-nourishment.

**ALTERNATIVE STATE MANAGEMENT REGIMES:** Once initial management programs are approved by the South Atlantic State/Federal Fisheries Management Board, states are required to obtain prior approval from the Management Board of any changes to their management program for which a compliance requirement is in effect. Changes to non-compliance measures must be reported to the Management Board but may be implemented without prior Management Board approval. A state can request permission to implement an alternative to any mandatory compliance measure only if that state can show to the Management Board's satisfaction that its alternative proposal will have the same conservation value as the measure contained in this amendment or any addenda prepared under Adaptive Management (**Section 4.5**). States submitting alternative proposals must demonstrate that the proposed action will not contribute to overfishing of the resource. All changes to state plans must be submitted in

writing to the Board and to the Commission either as part of the annual FMP Review process or the Annual Compliance Reports.

### ***De minimis* Fishery Guidelines**

The Interstate Fisheries Management Program Charter defines *de minimis* as “a situation in which, under the existing condition of the stock and scope of the fishery, conservation, and enforcement actions taken by an individual state would be expected to contribute insignificantly to a coastwide conservation program required by a Fishery Management Plan or amendment” (ASMFC 2001b).

States may petition the South Atlantic State/Federal Fisheries Management Board at any time for *de minimis* status. Once *de minimis* status is granted, designated states must submit annual reports including commercial and recreational landings to the Management Board justifying the continuance of *de minimis* status. States must include *de minimis* requests as part of their annual compliance reports. States may apply for *de minimis* status if recreational landings for 2 of the previous 3 years are less than 1% of the coastwide recreational landings for the same time period.

**ADAPTIVE MANAGEMENT:** The South Atlantic State/Federal Fisheries Management Board may vary the requirements specified in this amendment as a part of adaptive management in order to conserve the Cobia resources and/or maintain complementary actions established by the SAFMC. Specifically, the Management Board may change target fishing mortality rates and harvest specifications, or other measures designed to prevent overfishing of the stock complex or any spawning component. Such changes will be instituted to be effective on the first fishing day of the following year, but may be put in place at an alternative time when deemed necessary by the Management Board.

**COMPLIANCE:** Full implementation of the provisions in this management plan is necessary for the management program to be equitable, efficient, and effective. States are expected to implement these measures faithfully under state laws.

**MANDATORY COMPLIANCE ELEMENTS FOR STATES:** A state or jurisdiction will be determined out of compliance with the provision of this fishery management plan according to the terms of Section 7 of the ISFMP Charter if:

- Its regulatory and management programs to implement *Section 4* have not been approved by the South Atlantic State-Federal Fisheries Management Board; or
- It fails to meet any schedule required by *Section 5.1.2*, or any addendum prepared under adaptive management (*Section 4.6*); or
- It has failed to implement a change to its program when determined necessary by the South Atlantic State-Federal Fisheries Management Board; or
- It makes a change to its regulations required under *Section 4* or any addendum prepared under adaptive management (*Section 4.6*), without prior approval of the South Atlantic State-Federal Fisheries Management Board.

## **COMPLIANCE SCHEDULE**

States must implement the FMP according to the following schedule:

- |                  |                                                                                                                                                                                                   |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| January 1, 2018: | States must submit programs to implement the FMP for approval by the South Atlantic State-Federal Fisheries Management Board. Programs must be implemented upon approval by the Management Board. |
| April 1, 2018:   | States with approved management programs must implement FMP requirements. States may begin implementing management programs prior to this deadline if approved by the Management Board.           |

Reports on compliance must be submitted to the Commission by each jurisdiction annually, no later than July 1st, beginning in 2019.

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## 1. INTRODUCTION

### 1.1. BACKGROUND INFORMATION

At the August 2016 meeting of the Interstate Fishery Management Program (ISFMP) Policy Board, Commissioners expressed an interest in developing an Interstate Fishery Management Plan (FMP) complementary to the South Atlantic Fishery Management Council (SAFMC) Coastal Migratory Pelagics (CMP) FMP for cobia (*Rachycentron canadum*). Concerns were raised because the Annual Catch Limits (ACL) established by the SAFMC were being exceeded and fishery closures were resulting in disproportionate impacts to member states. A concern with future stock status due to ACL overages and the need for state specific involvement in management precipitated the development of an interstate FMP. Based on current genetic data, the management unit for this FMP are the Atlantic Migratory Group cobia that range from Georgia through New York. After a review of the available information developed by staff, the South Atlantic State/Federal Fisheries Management Board recommended initiation of an FMP. Upon review of the report, the ISFMP Policy Board voted to initiate the FMP and assigned its development and administration to the South Atlantic State/Federal Management Board (Management Board), which administers the FMPs for Atlantic croaker, black drum, red drum, Spanish mackerel, spot, and spotted seatrout.

The Management Board initiated development of an FMP for Atlantic Migratory Group (Atlantic) cobia in August 2016 and approved the Public Information Document for public comment in November 2016. Public comment was received and hearings held in December 2016, and the Management Board tasked the Plan Development Team (PDT) with developing a Draft FMP for Atlantic cobia in February 2017. A progress report was provided to the Management Board in May 2017. The Management Board discussed future management options and approved a letter to the SAFMC and GMFMC requesting a full transfer of management authority to the ASMFC. At their June, 2017, meeting in Ponte Vedra, FL, the SAFMC voted to begin developing an amendment to the CMP FMP to consider the transfer. At the same meeting, an emergency action to restore the Atlantic cobia stock boundary to include the east coast of Florida was not approved, leaving the current stock boundary from Georgia through New York.

#### 1.1.1. Statement of the Problem

Cobia management has historically been considered precautionary through the CMP FMP. Both sectors of the fishery have been managed with a 2 fish possession limit and 33" fork length (FL) minimum size since formal management began with the federal CMP FMP in 1982, with Gulf and Atlantic cobia managed as one stock. CMP Amendment 5 (GMFMC/SAFMC 1990) provided a metric for designating a stock as overfished (spawning stock biomass), and the specified that overfishing would be designating when the rate of harvest would prevent rebuilding (if overfished), or would lead to overfished status. Through CMP Amendment 8 (GMFMC/SAFMC 1996) and Amendment 11 (GMFMC/SAFMC 1998), the GMFMC and SAFMC refined the

overfishing definition, so that overfishing is occurring when fishing mortality (F) exceeds the maximum fishing mortality threshold (MFMT), which is based on 30% Static Spawning Potential Ratio (SPR). This overfishing definition is maintained in the CMP FMP and is determined only through a stock assessment.

Amendment 8 (GMFMC/SAFMC 1996) extended cobia management into the Mid-Atlantic region, but Gulf and Atlantic cobia were managed as one stock until Amendment 18 (GMFMC/SAFMC 2012). This amendment set the stock boundary at the boundary between the GMFMC and SAFMC, and also established the ACLs and Accountability Measures. Additionally, Amendment 18 specified that because there was no Overfishing Level (OFL) recommendation available at that time, overfishing was defined as landings exceeding the ACL. The Councils specified that OFL would be revisited after the stock assessment (SEDAR 28) was complete.

The 2013 stock assessment conducted through the Southeast Data Assessment and Review (SEDAR) process indicated overfishing was not occurring (i.e.,  $F < MFMT$ ) and that the stock was not overfished, although biomass has been trending steadily downward over the previous two decades. Following completion of the assessment, the SAFMC's Scientific and Statistical Committee (SSC) recommended the OFL and the acceptable biological catch (ABC) for Atlantic cobia.

The stock assessment used a new stock boundary (Georgia through New York), which was implemented into the FMP along with the updated ACLs in Amendment 20B (GMFMC/SAFMC 2014). The current ACL is a precautionary approach to prevent the stock from reaching an overfished status. The recent overages of the ACL in 2015 and 2016 significantly exceeded the ACL as well as the OFL recommended by the SAFMC's SSC. Further quota overages could result in overfishing and lead to the stock becoming overfished.

Most recently, the SAFMC implemented revised harvest limits for Atlantic cobia in federal waters through CMP Framework Amendment 4 (SAFMC 2016), and these will become effective on September 5, 2017. The new recreational limits are 1/person or 6/vessel, whichever is more restrictive, with a minimum size limit of 36" FL. Commercial limits are 2/person or 6/vessel, whichever is more restrictive, but the commercial minimum size limit does not change from 33" FL. The SAFMC also modified the recreational accountability measures so that if landings exceed the ACL, first there will be a reduced vessel limit for the following fishing season. If this does not mitigate the overage, then the following fishing season will be shortened.

Efforts to more closely monitor state specific harvest to ensure that the federal ACL is not exceeded and avoid overfishing is the Commission's primary focus. Further, by developing a Commission plan, the impacts of a single, federal closure may be mitigated through state-specific measures designed to maintain traditional seasons at reduced harvest rates. The proposed interstate FMP considers potential management measures to maintain a healthy resource while minimizing the socio-economic impacts of seasonal closures.

## **1.1.2. Benefits of Implementation**

### ***1.1.2.1. Social and Economic Benefits***

Sustainable management practices and policies for a moderately-lived species such as cobia can increase economic benefits and provide social stability in the fishing community while ensuring a fishery for future generations. Greater cooperation and uniform management measures among the states ensure that the conservation efforts of one state or group will not be undermined or that one state is not disadvantaged over another.

Historically, the commercial market has been a bycatch fishery due to low possession limits of 2 fish per person. Directed harvest, even at these low limits, appears to be increasing. Cobia are primarily caught as bycatch in nearshore to offshore trolling and hook and line commercial fisheries that target snapper/grouper and king mackerel. Cobia are considered excellent table fare and command a high price for the fishermen and fish houses when they are seasonally available.

The recreational fishing season primarily occurs from May through August, but may begin as early as April and typically extends into September in the Mid-Atlantic region. Atlantic cobia support a significant for-hire fishery and lure manufacturing businesses.

The recreational fishery and landings far exceed the commercial fishery and management has deemed the recreational fishery as the primary goal in management.

### ***1.1.2.2. Ecological Benefits***

Consistent management goals across jurisdictions can provide greater protections to a migratory stock. Cobia are moderately lived and can have multiple opportunities to contribute to the population if allowed to reach older ages, which can be afforded by regulatory protections across the range of the population and age classes.

Concern that the peak fishery occurs during the spawning season has resulted in at least one state (South Carolina) implementing a closure during that time.

## **1.2. DESCRIPTION OF THE RESOURCE**

### **1.2.1. Species Life History**

Cobia are a member of the family Rachycentridae and has historically been managed in the federal CMP FMP because of its migratory behavior. Cobia are distributed worldwide in tropical, subtropical and warm-temperate waters. In the western Atlantic it occurs from Nova Scotia, Canada, south to Argentina, including the Caribbean Sea. They are abundant in warm waters off the coast of the U.S. from the Chesapeake Bay south and throughout the Gulf of Mexico (Gulf). Cobia prefer water temperatures between 68-86°F. As a pelagic fish, cobia are found over the continental shelf as well as around offshore natural and artificial reefs. Cobia frequently reside near any structure that interrupts the open water such as pilings, buoys,

platforms, anchored boats, and flotsam, and are often seen under or accompanying rays, large coastal sharks, and sea turtles. Cobia are also found inshore inhabiting bays, inlets, and mangroves.

Cobia form large aggregations, spawning during daylight hours between June and August in the Atlantic Ocean near the Chesapeake Bay and off North Carolina in May and June, and in the Gulf during April through September. Spawning frequency is once every 9-12 days, spawning 15-20 times during the season. During spawning, cobia undergo changes in body coloration from brown to a light horizontal-striped pattern, releasing eggs and sperm into offshore open water. Cobia have also been observed spawning in estuaries and shallow bays with the young heading offshore soon after hatching. Cobia eggs are spherical, averaging 1.24 mm in diameter. Larvae are released approximately 24-36 hours after fertilization.

Newly hatched larvae are 2.5 mm (1 inch) long and lack pigmentation. Five days after hatching, the mouth and eyes develop, allowing for active feeding. A pale yellow streak is visible, extending the length of the body. By day 30, juveniles take on the appearance of adult cobia with two color bands running from the head to the posterior end.

Weighing up to a record 61 kg (135 pounds whole weight [lbs ww]), cobia are more common at weights of up to 23 kg (50 lbs ww). They reach lengths of 50-120 cm (20-47 inches), with a maximum of 200 cm (79 inches). Cobia grow quickly and have a moderately long life span. Maximum ages observed for cobia in the Gulf were 9 and 11 years for males and females, respectively, while off North Carolina maximum ages were 14 and 13 years, respectively. Females reach sexual maturity at 3 years of age and males at 2 years in the Chesapeake Bay region. During autumn and winter months, cobia presumably migrate south and offshore to warmer waters. In early spring, migration occurs northward along the Atlantic coast. Significant efforts are currently underway using various tagging methods to better understand the migratory behavior of cobia.

### **1.2.2. Stock Assessment Summary**

#### ***1.2.2.1. Stock Identification and Management Unit***

Microsatellite-based analyses demonstrated that tissue samples collected from North Carolina, South Carolina, east coast Florida (near St. Lucie), Mississippi, and Texas showed disparate allele frequency distributions, and subsequent analysis of molecular variance showed population structuring occurring between the states (Darden et al. 2014). Results showed that the Gulf of Mexico stock appeared to be genetically homogeneous and that a segment of the population continued around the Florida peninsula to St. Lucie, FL, with a genetic break somewhere between St. Lucie, FL, and Port Royal Sound, SC. However, no samples were available from Cape Canaveral, FL, to Hilton Head Island, SC. Tag-recapture data using conventional dart tags also suggested two stocks of fish that overlap at Brevard County, FL, corroborating the genetic findings.

The Atlantic and Gulf stocks were separated at the Florida-Georgia line during SEDAR 28 because genetic data suggested that the split is north of the Brevard/Indian River County line and tagging data did not dispute this split. The FL-GA line was selected as the stock boundary based on recommendations from the commercial and recreational work groups and comments that this boundary would allow easier management and did not conflict with the life history information available. However, there was not enough resolution in the genetic or tagging data to suggest that a biological stock boundary exists specifically at the FL-GA line, only that a mixing zone occurs around Brevard County, FL, and potentially to the north. The Atlantic stock was determined to extend northward, as far as New York.

Several ongoing research projects are expanding sample collection throughout coastal Georgia and northern Florida, which may help provide better resolution for where the genetic break (or mixing zone) between the Gulf of Mexico population and the Atlantic population occurs. In addition, a few hundred cobia have been tagged with acoustic tags in South Carolina, Georgia, and the east coast of Florida to evaluate movement patterns along the South Atlantic (FL-NC) coast of the United States. This may also help determine where the stock boundary/mixing zone occurs.

#### **1.2.2.2. SEDAR 28**

The Gulf and Atlantic migratory groups of cobia were assessed by SEDAR 28 in 2013. The SEDAR 28 stock assessment for Atlantic migratory group cobia (Atlantic cobia) determined that the stock is not overfished or experiencing overfishing. The Gulf of Mexico Fishery Management Council (GMFMC) Scientific and Statistical Committee's (SSC) review of the SEDAR 28 stock assessment of Gulf migratory group cobia (Gulf cobia) determined that the stock was not overfished or experiencing overfishing.

#### **1.2.3. Abundance and Present Condition**

No coastwide index of abundance is available for cobia and no reliable regional indices of abundance can be generated due to lack of targeted monitoring programs and low incidental catch of cobia in most existing surveys. In particular, few surveys consistently encounter and sample adult fish due to their size and gear avoidance in primary survey methods such as trawls.

### **1.3. DESCRIPTION OF THE FISHERY**

#### **1.3.1. Commercial Fishery**

Prior to 2015, the SAFMC's management area for Atlantic cobia extended from the east coast of Florida through New York. As implemented through Amendment 20B (GMFMC/SAFMC 2014) and effective in 2015, the harvests of cobia off the east coast of Florida have been considered part of the Gulf migratory group, thus the current management area for Atlantic cobia extends from Georgia through New York. The tables presented below include cobia landings and

revenues from Georgia through New York, and thus exclude those from Florida. In this way, reported landings and revenues for 2010 through 2014 are consistent with those for 2015 under the new geographic designation of Atlantic cobia.

Three important issues should be recognized regarding the commercial landings data for Atlantic cobia presented in Tables 1 and 2. First, Table 1 shows 2015 landings in landed weight, while Table 2 shows 2010-2015 landings in whole weight. The Atlantic cobia ACL is specified and monitored in terms of landed weight (“as reported”), which is generally a combination of gutted and whole weight. This means landings in gutted weight are not converted to whole weight, or vice-versa, but landings in whole or gutted weight are simply added together to track landings against the ACL. The Atlantic Coastal Cooperative Statistics Program (ACCSP), which is a major data source for cobia (and other Atlantic species) landings, reports commercial landings in whole weight but may be converted to gutted weight using a conversion factor. However, the ACCSP is not currently able to provide landed weight. Second, the 2015 data shown in the tables is preliminary, but a more recent update has been made by the Southeast Fisheries Science Center (SEFSC). The updated 2015 Atlantic cobia commercial landings were 71,790 lbs landed weight (Table 1). This number is lower than that shown in the tables and is also in landed weight, not whole weight. Third, landings prior to 2015 cannot be directly converted to landed weight. However, the commercial ACL (quota) prior to 2015 was monitored in terms of whole weight. Also, commercial quotas were not instituted until 2011.

**Table 1.** Updated 2015 commercial landings (pounds landed weight [lw]) and revenues (2014 \$).

States				
	GA/SC	NC	VA	Total
Pounds (lw)	3,219	42,338	26,233	71,790
Revenues (2014 \$)	\$28,755	\$113,052	\$75,394	\$217,200

Source: D. Gloeckner (pers. comm., 2016) for 2015 data.

From 2010 through 2015, annual commercial landings of Atlantic cobia ranged from approximately 33,000 to 83,000 lbs ww (Table 2). Dockside revenues from those landings ranged from approximately \$79,000 to \$233,000 (2014 \$) (Table 2). The average dockside price for those six years was \$2.43 per lb ww (2014 \$). The highest landings and revenues occurred in 2015, whereas the lowest for both landings and revenues occurred in 2011. When the Florida east coast zone was still part of the management area for Atlantic cobia, commercial harvest reached the sector’s quota of 125,712 lbs ww in 2014 and closed on December 11, 2014. Under the modified management area, excluding the Florida east coast zone, the quota for Atlantic cobia was revised to 60,000 lbs landed weight (lw) in 2015 and 50,000 lbs lw in 2016 and thereafter. Although landings exceeded the 2015 quota, no quota closure was imposed. Preliminary commercial landings for 2016 are 48,690 lbs lw (SEFSC Quota Monitoring Program; July, 2017). The federal commercial fishery closed on December 6, 2016.

Commercial landings of Atlantic cobia have predominantly come from North Carolina, followed by Virginia and South Carolina/Georgia (Table 2). Georgia and South Carolina landings are combined for confidentiality purposes because of the relatively small amount of cobia landings

in Georgia. Cobia landings north of Virginia are relatively rare and sporadic, thus, Virginia is considered the northernmost major contributor to the commercial Atlantic cobia fishery. One notable feature for Virginia is the surge in landings in 2014 and 2015, although they were still lower than landings in North Carolina.

**Table 2.** Commercial Atlantic cobia landings (lbs ww) and revenues (2014 \$) by state/area, 2010-2015 (preliminary). GA landings are very small, so they are combined with those of SC.

	GA/SC	NC	VA	Total
	Pounds (ww)			
2010	3,174	43,737	9,364	56,275
2011	4,610	19,950	9,233	33,793
2012	3,642	32,008	6,309	41,959
2013	4,041	35,496	13,095	52,632
2014	4,180	41,848	23,111	69,139
2015	3,555	52,315	27,277	83,148
Average	3,867	37,559	14,732	56,158
	Dockside Revenues (2014 \$)			
2010	\$11,377	\$70,377	\$19,976	\$101,730
2011	\$19,666	\$37,893	\$21,666	\$79,224
2012	\$15,554	\$66,887	\$14,597	\$97,038
2013	\$15,639	\$79,397	\$35,792	\$130,828
2014	\$13,320	\$95,462	\$67,972	\$176,754
2015	\$11,151	\$147,160	\$75,360	\$233,672
Average	\$14,451	\$82,863	\$39,227	\$136,541

Source: SEFSC Commercial ACL Dataset (December 2015) for 2010-2014 data; D. Gloeckner (pers. comm., 2016) for 2015 data.

Commercial fishermen harvest cobia using various gear types. Table 3 shows commercial Atlantic cobia landings and revenues by gear type. In Table 3, “Hook and Line” includes handline, longline, power-assisted line, and troll line while “Others” includes traps, other net gear, dredges/gigs/spears, and unclassified gear. Handline has been the foremost gear type used in harvesting cobia for most years (Table 3), followed closely by gillnets. Within the “Others” category, the largest landings were assigned to “unclassified gear.” Although not shown in the table, handline accounted for the biggest share of the hook and line landings. Longline has been a minor gear type in the commercial harvest of cobia.

**Table 3.** Commercial Atlantic cobia landings (lb ww) and revenues (2014\$) by gear, 2010-2015 (preliminary).

	Hook and Line	Gillnets	Others	Total
	Pounds (ww)			
2010	26,758	23,495	6,022	56,275
2011	18,322	9,177	6,294	33,793
2012	12,962	21,091	7,906	41,959
2013	28,356	13,343	10,933	52,632
2014	37,082	23,540	8,517	69,139
2015	37,702	36,417	9,030	83,148
Average	26,864	21,177	8,117	56,158
	Dockside Revenues (2014 \$)			
2010	\$49,095	\$38,605	\$14,030	\$101,730
2011	\$39,265	\$18,242	\$21,717	\$79,224
2012	\$29,677	\$43,875	\$23,486	\$97,038
2013	\$69,433	\$30,206	\$31,189	\$130,828
2014	\$99,959	\$55,275	\$21,520	\$176,754
2015	\$108,165	\$100,130	\$25,377	\$233,672
Average	\$65,932	\$47,722	\$22,886	\$136,541

Source: SEFSC Commercial ACL Dataset (December 2015) for 2010-2014 data; D. Gloeckner (pers. comm., 2016) for 2015 data.

### ***1.3.1.1. State-specific Commercial Fishery***

#### Georgia

There is no directed commercial fishery for cobia in Georgia. Commercial landings may occur but they are typically the result of bycatch in other targeted fisheries. Some illegal sale of recreationally-caught cobia may occur; however, the total amount and value is relatively small. The greatest recorded landings in Georgia (since annual landings became available in 1979) occurred in 1993 when 2,730 pounds of cobia were landed resulting in a market value of \$4,728.

#### South Carolina

There is a limited commercial fishery for cobia in South Carolina. Cobia are a state-designated Gamefish, and as such, cobia landed in state waters may not be sold commercially. However, cobia landed in Federal waters can be sold commercially under current regulations. Commercial cobia landings have ranged from 2,000-4,300 lbs per year with an annual mean of 3,207 lbs per year for 2005-2016 and dollar values ranging from \$4,731-\$17,795 annually.

#### North Carolina:

Commercial landings of cobia in North Carolina are available from 1950 to the present. However, monthly landings are not available until 1974. North Carolina instituted mandatory



reporting of commercial landings through their Trip Ticket Program, starting in 1994. Landings information collected since 1994 are considered the most reliable. The primary fisheries associated with cobia in North Carolina are the snapper-grouper, coastal pelagic troll, and the large mesh estuarine gill net fisheries. Cobia landings from 1950 – 2016 have ranged from a low of 600 pounds (1951; 1955) to a high of 52,684 pounds (2015) with average landings of 16,611 pounds over the 66-year time series (Table 3). Recently, landings have ranged from 19,004 pounds (2007) to 52,684 pounds (2015), averaging 34,674 pounds over the last ten years.

The primary commercial gear used to harvest cobia has changed over time. This is most likely due to changing fisheries and the fact that it is mostly considered a marketable bycatch fishery, especially after North Carolina adopted the CMP FMP measures of 33-inches minimum FL and two-per person possession limit in 1991. From 1950 to the late 1970s, cobia were mostly landed out of the haul seine fishery. Most landings that occurred during the 1980s came from the pelagic troll and hand line fishery with modest landings from the haul seine and anchored gill net fishery. From 1994-2016, the majority of landings have occurred from the anchored gill net and pelagic troll and hand line fishery with gill nets being the top gear during most of those years.

### Virginia

Similar to the situation for the recreational sector, commercial hook-and-line fishermen have come to depend more on cobia as the quality of other fisheries in Virginia has deteriorated. In fact, it has become an actively targeted species for many such commercial fishermen, even though cobia has often been considered a bycatch species in other states and for other gears.

Virginia has had variable commercial landings of cobia since the Virginia Marine Resources Commission instituted mandatory reporting in 1993, with landings being high in the mid-1990s, lower in the mid-2000s, and peaking in the past three years (2014-2016; Appendix II, Table VA1). There is a small, but directed hook-and-line fishery, with mainly bycatch landings from gillnets and pound nets, although these landings can be sizable (Appendix II, Table VA2). The “Other” category is predominantly gillnet landings, but they were combined with other gears for confidentiality purposes. Hook-and-line landings have been the largest, by gear, since 2007.

### **1.3.2. Recreational Fishery**

The recreational sector is comprised of a private component and a for-hire component. The private component includes anglers fishing from shore (including all land-based structures) and private/rental boats. The for-hire component is composed of charter boats and headboats (also called partyboats). Although charter boats tend to be smaller, on average, than headboats, the key distinction between the two types of operations is how the fee is typically determined. On a charter boat trip, the fee charged is for the entire vessel, regardless of how many passengers are carried, whereas the fee charged for a headboat trip is paid per individual angler.

#### **1.3.2.1. Permits**

A federal charter/headboat (for-hire) vessel permit is required for harvesting CMP species, including cobia, when fishing on for-hire vessels in the south Atlantic and mid-Atlantic waters.

The federal for-hire permit is an open access system. As of May 16, 2016, there were 1,494 valid (non-expired) or renewable Atlantic charter/headboat CMP permits. A renewable permit is an expired permit that may not be actively fished, but is renewable for up to one year after expiration. Although the for-hire permit application collects information on the primary method of operation, the resultant permit itself does not identify the permitted vessel as either a headboat or a charter boat and does not restrict operation as either a headboat or charter boat, thus, vessels may operate in both capacities. However, only selected headboats are required to submit harvest and effort information to the National Marine Fisheries Service (NMFS) Southeast Region Headboat Survey (SRHS). Participation in the SRHS is based on determination by the SEFSC that the vessel primarily operates as a headboat. There were 73 South Atlantic vessels registered in the SRHS as of February 22, 2016 (K. Fitzpatrick, NMFS SEFSC, pers. comm.).

Information on South Atlantic charter boat and headboat operating characteristics, including average fees and net operating revenues, as reported in Holland et al. (2012), and financial and economic impact information on Southeast (FL-NC) for-hire vessels, as reported in Steinback and Brinson (2013), is incorporated herein by reference.

There are no specific federal permitting requirements for recreational anglers to fish for or harvest cobia. Instead, anglers are required to possess either a state recreational fishing permit that authorizes saltwater fishing in general, or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions. As a result, it is not possible to identify with available data how many individual anglers would be expected to be affected by this proposed FMP.

Recently, the states of North Carolina and Virginia have developed programs to survey recreational cobia fishermen. These programs may provide information in the future that would help characterize the cobia fisheries in these states.

#### **1.3.2.2. Harvest**

On average, from 2010 through 2015, the recreational sector landed approximately 793,000 lbs ww of Atlantic cobia (Table 4). North Carolina has been the dominant state in recreational landings of cobia, followed by Virginia, South Carolina, and Georgia. Cobia landings north of Virginia are relatively rare and sporadic, thus, Virginia is considered the northernmost major contributor to the recreational Atlantic cobia fishery. Noticeable in the table is the surge in the recreational landings of cobia for all states in 2015, resulting in 2015 landings that were more than double the recreational ACL. Preliminary landings (1,289,993 lbs ww, GA-VA; Pers. com. National Marine Fisheries Service [NMFS] [July 21, 2017]) indicate that a similar circumstance occurred in 2016.

The private/rental mode has been the most dominant fishing mode for harvesting cobia (Table 5). Headboats have provided the lowest contribution to recreational landings of cobia. Information reported in Table 5 indicates that the 2015 surge in recreational landings can be attributed to substantial landings increases by the charter and private/rental fishing modes.

Charter boat landings more than doubled while private/rental mode landings more than tripled in 2015. In the particular case of the South Carolina charter boat sector, increasing landings of cobia caught from offshore waters (greater than 3 miles) partly compensated for the declining landings from estuarine and nearshore waters (0-3 miles) that have occurred since about 2007 (South Carolina Cobia Management Needs PowerPoint Presentation, SC DNR, 2016).

**Table 4.** Annual recreational landings (lbs ww) of Atlantic cobia, by state, 2010-2015 (preliminary).

	<b>Georgia</b>	<b>South Carolina</b>	<b>North Carolina</b>	<b>Virginia</b>	<b>Total</b>
2010	77,064	63,678	559,476	237,528	937,746
2011	88,049	1,554	119,678	137,931	347,213
2012	102,996	222,353	66,645	103,995	495,989
2013	28,427	19,159	492,998	354,463	895,048
2014	19,768	32,010	277,846	214,426	544,050
2015	67,250	124,057	631,024	718,647	1,540,978
Average	63,926	77,135	357,945	294,498	793,504

Source: SEFSC MRIPACLspec\_rec81\_15wv6\_17Mar16.

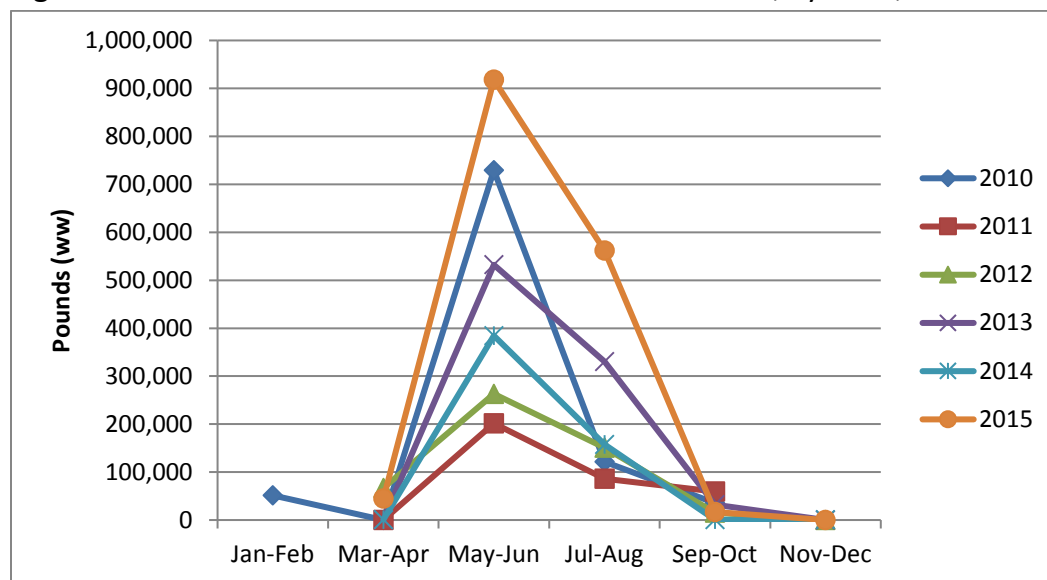
**Table 5.** Annual recreational landings (lbs ww) of Atlantic cobia, by fishing mode, 2010-2015 (preliminary).

	<b>Charter</b>	<b>Headboat</b>	<b>Private/Rental</b>	<b>Shore</b>	<b>Total</b>
2010	133,110	2,747	789,996	11,893	937,746
2011	23,608	1,886	282,728	38,990	347,213
2012	39,729	1,671	385,777	68,811	495,989
2013	73,623	5,485	815,940	0	895,048
2014	46,528	5,701	453,871	37,950	544,050
2015	102,941	1,741	1,400,338	35,957	1,540,978
Average	69,923	3,205	688,108	32,267	793,504

Source: SEFSC MRIPACLspec\_rec81\_15wv6\_17Mar16.

Peak recreational landings of cobia occurred in the May-June wave each year from 2010 through 2015 (Figure 1). Recreational landings steeply increased from the March-April wave to their peak and also steeply declined after the peak wave. Landings are concentrated around the May-June and July-August waves.

**Figure 1.** Distribution of Atlantic cobia recreational harvest, by wave, 2010-2015 (preliminary).



Source: SEFSC MRIPACLspec\_rec81\_15wv6\_17Mar16.

### 1.3.2.3. Effort

Recreational effort derived from the Marine Recreational Statistics Survey/Marine Recreational Information Program (Marine Recreational Fisheries Statistical Survey [MRFSS]/Marine Recreational Information Program [MRIP]) database can be characterized in terms of the number of trips as follows:

**Target effort** - The number of individual angler trips, regardless of duration, where the intercepted angler indicated that the species or a species in the species group was targeted as either the first or second primary target for the trip. The species did not have to be caught.

**Catch effort** - The number of individual angler trips, regardless of duration and target intent, where the individual species or a species in the species group was caught. The fish did not have to be kept.

**Total recreational trips** - The total estimated number of recreational trips in the Atlantic, regardless of target intent or catch success.

Other measures of effort are possible, such as the number of harvest trips (the number of individual angler trips that harvest a particular species regardless of target intent), and directed trips (the number of individual angler trips that either targeted or caught a particular species), but the three measures of effort listed above are used in this assessment.

Estimates of annual Atlantic cobia effort (in terms of individual angler trips) for 2010-2015 are provided in Table 6 for target trips and Table 7 for catch trips. Target and catch trips are shown by fishing mode (charter, private/rental, shore) for Georgia, South Carolina, North Carolina, and

Virginia. These are trips for cobia in state or federal waters off of these states. Estimates of cobia target and catch trips for additional years, and other measures of directed effort, are available at <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index>.

Cobia is one of the few species where target trips generally exceed catch trips. The 2010-2015 average target trips were 4,519 for the charter mode, 130,360 for the private/rental mode, and 28,293 for the shore mode (Table 6). In contrast, the average catch trips were 3,114 for the charter mode, 33,329 for the private/rental mode, and 6,840 for the shore mode (Table 7). This is suggestive of a relatively strong interest in fishing for cobia among recreational anglers across all fishing modes. For each state, the private/rental mode has been the most dominant fishing mode both in target and catch effort.

**Table 6.** Target trips for Atlantic cobia, by fishing mode and state, 2010-2015 (preliminary).

Year	Charter				
	Georgia	S. Carolina	N. Carolina	Virginia	Total
2010	0	3,349	3,029	358	6,736
2011	22	2,940	1,416	525	4,903
2012	0	1,025	345	156	1,526
2013	160	0	2,446	24	2,630
2014	0	1,452	1,703	295	3,450
2015	792	1,290	2,765	3,022	7,869
Average	162	1,676	1,951	730	4,519
	Private/Rental				
2010	5,453	14,228	49,358	67,730	136,769
2011	4,030	24,554	26,400	49,180	104,164
2012	2,495	57,543	23,320	37,706	121,064
2013	12,235	22,373	50,883	53,981	139,472
2014	1,322	23,365	50,112	49,075	123,874
2015	12,236	9,684	58,658	76,241	156,819
Average	6,295	25,291	43,122	55,652	130,360
	Shore				
2010	0	2,030	14,950	9,838	26,818
2011	0	0	10,090	2,366	12,456
2012	0	914	12,444	14,939	28,297
2013	0	627	15,977	5,693	22,297
2014	0	2,395	17,085	18,565	38,045
2015	0	363	21,925	19,554	41,842
Average	0	1,055	15,412	11,826	28,293

Source: <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index>.

**Table 7.** Catch trips for Atlantic cobia, by fishing mode and state, 2010-2015 (preliminary).

Year	Charter				
	Georgia	South Car.	North Car.	Virginia	Total
2010	97	1,301	4,398	237	6,033
2011	400	0	1,655	135	2,190
2012	140	372	472	156	1,140
2013	160	48	2,798	24	3,030
2014	55	110	1,559	72	1,796
2015	0	879	2,652	963	4,494
Average	142	452	2,256	265	3,114
	Private/Rental				
2010	3,320	2,939	18,433	13,600	38,292
2011	4,145	606	8,156	9,291	22,198
2012	3,296	5,134	4,869	6,658	19,957
2013	1,157	3,699	21,047	14,256	40,159
2014	1,436	2,957	10,561	14,803	29,757
2015	2,351	4,396	18,740	24,121	49,608
Average	2,618	3,289	13,634	13,788	33,329
	Shore				
2010	0	0	6,192	0	6,192
2011	0	0	6,528	0	6,528
2012	0	0	7,983	2,055	10,038
2013	0	0	2,673	0	2,673
2014	0	3,268	6,128	0	9,396
2015	0	2,697	3,514	0	6,211
Average	0	994	5,503	343	6,840

Source: <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index>.

Headboat data in the Southeast do not support the estimation of target or catch effort because target intent is not collected and the harvest data (the data reflects only harvest information and not total catch) are collected on a vessel basis and not by individual angler. **Table 8** contains estimates of the number of headboat angler days for the South Atlantic states for 2010-2015. Georgia and South Carolina data are combined for confidentiality purposes. Virginia information was not available because only South Atlantic headboats are included in the SRHS.

**Table 8.** South Atlantic headboat angler days, by state, 2010-2015.

Year	GA/SC	NC	TOTAL
2010	46,908	21,071	67,979
2011	46,210	18,457	64,667
2012	42,064	20,766	62,830
2013	42,853	20,547	63,400
2014	44,092	22,691	66,783
2015	41,479	22,716	64,195
Average	43,934	21,041	64,976

Source: NMFS Southeast Region Headboat Survey (SRHS).

#### ***1.3.2.4. State Specific Recreational Fisheries***

##### Georgia

A large recreational fishery exists for cobia in Georgia. The majority of this fishery occurs in nearshore waters around natural and artificial reefs. While there are some instances of cobia being caught inshore and on beach front piers in Georgia, most landings come from outside state waters. Anglers begin targeting cobia in late April-early May with the peak of the season typically occurring in June. Late season catches often occur on nearshore reefs through October depending on water temperatures. However, these fall runs of fish are sporadic and are often missed by anglers.

##### South Carolina

The recreational fishery accounts for the majority of cobia landings in South Carolina. The fishery occurs in both nearshore waters and around natural and artificial reefs offshore. Historically, the majority of cobia landings have occurred in state waters in and around spawning aggregations from April through May. However, due to intense fishing pressure in the inshore zone, annual landings of cobia have fallen drastically since 2009, such that the majority of recreationally caught cobia in South Carolina now come from offshore (federal) waters. Anglers begin targeting cobia in late April-early May with the peak of the season typically occurring May into early June. Late season catches can occur on nearshore reefs through October depending on water temperatures. However, these fall catches are sporadic. South



Carolina has accounted for an average of 1.3% of total landings in state jurisdictional waters along the Atlantic coast for 2010-2016.

### North Carolina

Historically, recreational fisherman targeted cobia from a vessel by anchoring and fishing with dead, live, or a mixture of both bait types near inlets and deep water sloughs inshore (Manooch 1984). Fish were also harvested from shore or off of piers using dead or live bait, most commonly menhaden. In the early 2000s, fisherman began outfitting their vessels with towers to gain a higher vantage point to spot and target free swimming cobia along tidelines and around bait aggregations. This method of fishing actively targets cobia in the nearshore coastal zone and has become the primary mode of fishing in most parts of the state.

Recreational harvests of cobia in North Carolina from 1981-2016 have ranged from a low of 0 pounds (1983) to a high of 631,024 pounds (2015). Landings during the 1980s and 1990s remained relatively constant from year to year. Landings began to increase and become more variable beginning in the mid-2000s. From 2010-2015, recreational cobia landings in North Carolina ranged from 66,645 to 631,024 pounds (avg. = 357,945 pounds). Seasonally, cobia are landed mostly in the spring and summer months corresponding with their spring spawning migration (Smith 1995). Peak landings occur during the latter part of May into June and quickly diminish thereafter. However, recreational landings of cobia can occur through the month of October. By fishing mode, the majority of recreational landings of cobia in North Carolina occur from private vessels (73 %) with charter vessels (14 %) and shore based modes (13 %) accounting for the rest.

### Virginia

According to the MRFSS/MRIP, Virginia's estimated recreational landings of cobia have been highly variable since 2000, with the lowest estimate being 26,537 pounds in 2012 and 898,542 pounds in 2006 (Appendix II, Table VA3). Although still preliminary, the estimate for 2016 is 919,992 pounds. It is believed the recreational fishery has grown in recent years, both in the number of participants, and the effectiveness of fishing due to the advent of sight-casting—especially when aided by “cobia towers.” Traditionally, cobia had been targeted using live-bait bottom-fishing, but these new techniques are causing a shift in preference among anglers. However, the extent of this change is not clear for Virginia's recreational fishery.

In addition to a large private recreational industry, there is a small, dedicated group of for-hire participants. Many of these captains/fishing guides utilize cobia towers and prefer sight-casting, although some still chum and fish using live bait.

#### **1.3.3. Subsistence Fishery**

There is no known subsistence fishery for cobia.

#### **1.3.4. Non-Consumptive Factors**

No non-consumptive factors were identified that were of significance to the cobia resource.

### **1.3.5. Interactions with Other Fisheries, Species, or Users**

The recreational cobia fishery tends to be a targeted fishery. Various small and large coastal sharks and various ray species are the most common bycatch. Cobia are encountered as bycatch in the troll and live bait fisheries for king and Spanish mackerel, dolphin, and other pelagic species. Additionally, cobia are taken incidental to offshore bottom fishing activities for snapper/grouper species.

The commercial cobia fishery is primarily bycatch in the same troll fisheries and taken incidental to snapper/grouper fisheries. Some directed harvest does occur; however, low limits preclude a large scale fishery.

## **1.4. HABITAT CONSIDERATIONS**

### **1.4.1. Habitat Important to the Stocks**

#### ***1.4.1.1. Description of the Habitat***

##### *1.4.1.1.1. Spawning Habitat*

The SAFMC has management jurisdiction of the federal waters (3-200 nautical miles) offshore of North Carolina, South Carolina, Georgia, and Florida. Under the CMP FMP, the SAFMC manages Atlantic cobia through the Mid-Atlantic region (VA-NY).

Cobia spawn in nearshore waters along the South Atlantic coast from April through June. Nearby states (South Carolina) have documented the presence of inshore spawning aggregations of cobia (Lefebvre and Denson, 2012). However, there have been no such aggregations identified in Georgia. Eggs and larvae are typically found in nearshore waters and juveniles most often occur inshore or in protected nearshore waters.

Cobia enter nearshore waters along the south Atlantic Coast when water temperatures reach 20-21 °C, usually late April and aggregate to spawn through June. Histological evaluation of gonads from these nearshore collections suggest cobia are mature and spawning in inshore waters of high salinity estuaries (Callibogue, Port Royal Sound and St. Helena Sound in SC)(Lefebvre and Denson, 2012). The inshore spawning aggregations in South Carolina have been determined to be genetically distinct from the Atlantic stock of cobia (Darden et al. 2014). These findings are corroborated by conventional tag-recapture information and show estuarine fidelity for spawning fish and natal homing annually into estuaries. Eggs and larvae are typically found in nearshore waters where there is significant retention time of estuarine waters; however, juveniles (< 2yrs of age) are only occasionally caught inshore or in protected nearshore waters making it unclear what habitat the majority of this life stage utilizes until they mature and join spawning aggregations (Lefebvre and Denson, 2012).

#### 1.4.1.1.2. Larval Habitat

Little is known about the larval stages of cobia. Larvae have been collected in pelagic waters of the Gulf of Mexico (65-134 m isobaths), within a meter of the water column (Ditty and Shaw 1992).

#### 1.4.1.1.3. Juvenile Habitat

Juveniles, like larvae, have also been found in pelagic waters of the Gulf of Mexico, and are believed to utilize floating *Sargassum* as habitat in such areas (Ditty and Shaw 1992). Early juveniles then move to high-salinity, inshore areas along beaches, river mouths, barrier islands, and bays/inlets (Benson 1982, Hoese and Moore 1977, McClane 1974, Swingle 1971).

#### 1.4.1.1.4. Adult Habitat

Adults enter estuaries on a seasonal basis but otherwise inhabit coastal waters and the continental shelf (Benson 1982, Collette 1978, Robins and Ray 1986). Although generally considered pelagic, adult cobia are found at various depths throughout the water column (Freeman and Walford 1976). They do not appear to be substratum-specific, but extensive tagging research is currently being conducted by various states along the U.S. Atlantic coast to better determine movement and habitat usage.

##### 1.4.1.1.4.1. South Atlantic Region

The continental shelf off the southeastern U.S., extending from the Dry Tortugas, FL, to Cape Hatteras, NC, encompasses an area in excess of 100,000 square km (Menzel 1993). Based on physical oceanography and geomorphology, this environment can be divided into two regions: Dry Tortugas, FL, to Cape Canaveral, FL, and Cape Canaveral, FL, to Cape Hatteras, NC. The continental shelf from the Dry Tortugas, FL, to Miami, FL, is approximately 25 km wide and narrows to approximately 5 km off Palm Beach, FL. The shelf then broadens to approximately 120 km off Georgia and South Carolina before narrowing to 30 km off Cape Hatteras, NC. The Florida Current/Gulf Stream flows along the shelf edge throughout the region. In the southern region, this boundary current dominates the physics of the entire shelf (Lee et al. 1994).

In the northern region, additional physical processes are important and the shelf environment can be subdivided into three oceanographic zones (Atkinson et al. 1985, Menzel 1993), the outer shelf, mid-shelf, and inner shelf. The outer shelf (40-75 meters (m)) is influenced primarily by the Gulf Stream and secondarily by winds and tides. On the mid-shelf (20-40 m), the water column is almost equally affected by the Gulf Stream, winds, and tides. Inner shelf waters (0-20 m) are influenced by freshwater runoff, winds, tides, and bottom friction. Water masses present from the Dry Tortugas, FL, to Cape Canaveral, FL, include Florida Current water, waters originating in Florida Bay, and shelf water.

Spatial and temporal variation in the position of the western boundary current has dramatic effects on water column habitats. Variation in the path of the Florida Current near the

Dry Tortugas induces formation of the Tortugas Gyre (Lee et al. 1992, 1994). This cyclonic eddy has horizontal dimensions of approximately 100 km and may persist near the Florida Keys for several months. The Pourtales Gyre, which has been found to the east, is formed when the Tortugas Gyres moves eastward along the shelf. Upwelling occurs in the center of these gyres, thereby adding nutrients to the near surface (<100 m) water column. Wind and input of Florida Bay water also influence the water column structure on the shelf off the Florida Keys (Smith 1994, Wang et al. 1994). Further downstream, the Gulf Stream encounters the “Charleston Bump”, a topographic rise on the upper Blake Ridge where the current is often deflected offshore resulting in the formation of a cold, quasi-permanent cyclonic gyre and associated upwelling (Brooks and Bane 1978). On the continental shelf, offshore projecting shoals at Cape Fear, Cape Lookout, and Cape Hatteras, NC, affect longshore coastal currents and interact with Gulf Stream intrusions to produce local upwelling (Blanton et al. 1981, Janowitz and Pietrafesa 1982). Shoreward of the Gulf Stream, seasonal horizontal temperature and salinity gradients define the mid-shelf and inner-shelf fronts. In coastal waters, river discharge and estuarine tidal plumes contribute to the water column structure.

The water column from Dry Tortugas, FL, to Cape Hatteras, NC, serves as habitat for many marine fish and shellfish. Most marine fish and shellfish release pelagic eggs when spawning and thus, most species utilize the water column during some portion of their early life history (Leis 1991, Yeung and McGowan 1991). Many fish inhabit the water column as adults. Pelagic fishes include numerous clupeoids, flying fish, jacks, cobia, bluefish, dolphin, barracuda, and the mackerels (Schwartz 1989). Some pelagic species are associated with particular benthic habitats, while other species are truly pelagic.

#### 1.4.1.1.4.2. Mid-Atlantic Region

Information about the physical environment of the Mid-Atlantic region was provided by the Mid-Atlantic Fishery Management Council (MAFMC) and adapted from the 2016 Mackerel, Squid, and Butterfish Specifications Environmental Assessment, available at: <http://www.greateratlantic.fisheries.noaa.gov/regs/2016/January/16msb2016specspr.html>.

Climate, physiographic, and hydrographic differences separate the Atlantic Ocean from Maine to Florida into the New England-Middle Atlantic Area and the South Atlantic Area (division/mixing at Cape Hatteras, NC). The inshore New England-Middle Atlantic area is fairly uniform physically and is influenced by many large coastal rivers and estuarine areas. The continental shelf (characterized by water less than 650 ft. in depth) extends seaward approximately 120 miles off Cape Cod, narrows gradually to 70 miles off New Jersey, and is 20 miles wide at Cape Hatteras. Surface circulation is generally southwesterly on the continental shelf during all seasons of the year, although this may be interrupted by coastal indrafting and some reversal of flow at the northern and southern extremities of the area. Water temperatures range from less than 33°F from the New York Bight north in the winter to over 80°F off Cape Hatteras in summer.

Within the New England-Middle Atlantic Area, the Northeast U.S. Continental Shelf Large Marine Ecosystem includes the area from the Gulf of Maine to Cape Hatteras, extending from

the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream. The Northeast U.S. Continental Shelf Large Marine Ecosystem is a dynamic, highly productive, and intensively studied system providing a broad spectrum of ecosystem goods and services. This region, encompassing the continental shelf area between Cape Hatteras and the Gulf of Maine, spans approximately 250,000 km<sup>2</sup> and supports some of the highest revenue fisheries in the U.S. The system historically underwent profound changes due to very heavy exploitation by distant-water and domestic fishing fleets. Further, the region is experiencing changes in climate and physical forcing that have contributed to large-scale alteration in ecosystem structure and function. Projections indicate continued future climate change related to both short and medium-term cyclic trends as well as non-cyclic climate change.

A number of distinct subsystems comprise the region. The Gulf of Maine is an enclosed coastal sea, characterized by relatively cold waters and deep basins, with various sediment types. Georges Bank is a relatively shallow coastal plateau that slopes gently from north to south and has steep submarine canyons on its eastern and southeastern edge. It is characterized by highly productive, well-mixed waters and fast-moving currents. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from southern New England to Cape Hatteras, NC. Detailed information on the affected physical and biological environments inhabited by the managed resources is available in Stevenson et al. (2006).

#### **1.4.2. Identification and Distribution of Habitat and Habitat Areas of Particular Concern**

Habitat information for Atlantic cobia is sparse. Few, if any, fishery independent surveys consistently interact with cobia in numbers adequate to develop any trends or conclusions. Much of the habitat data presented is generic for the coastal migratory pelagic fishes that include king and Spanish mackerel. Species-specific habitat information is a data and research need.

A description of the Habitat Areas of Particular Concern (HAPC) for CMP species is provided in Amendment 18 to the CMP FMP (GMFMC/ SAFMC 2011), and is incorporated herein by reference. Areas which meet the criteria for HAPCs include sandy shoals of Cape Lookout, Cape Fear, and Cape Hatteras from shore to the ends of the respective shoals, but shoreward of the Gulf stream; The Point, The Ten- Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump and Hurl Rocks (South Carolina); The Point off Jupiter Inlet (Florida); *Phragmatopoma* (worm reefs) reefs off the central east coast of Florida; nearshore hard bottom south of Cape Canaveral; The Hump off Islamorada (Florida); The Marathon Hump off Marathon (Florida); The "Wall" off of the Florida Keys; Pelagic *Sargassum*; and Atlantic coast estuaries with high numbers of Spanish mackerel and cobia based on abundance data from the Estuarine Living Marine Resources Program. Estuaries meeting this criteria for Spanish mackerel include Bogue Sound and New River (North Carolina), for cobia, Broad River (South Carolina).

##### **1.4.2.1. Essential Fish Habitat for Coastal Migratory Pelagics**

A description of the Essential Fish Habitat (EFH) for CMP species is provided in Amendment 18 to the CMP FMP (GMFMC and SAFMC 2011), and is incorporated herein by reference. EFH for

CMPs include coastal estuaries from the U.S./Mexico border to the boundary between the areas covered by the GMFMC and SAFMC from estuarine waters out to depths of 100 fathoms (GMFMC 2004). In the South Atlantic, EFH for coastal migratory pelagic species includes sandy shoals of capes and offshore bars, high profile rocky bottom and barrier island ocean-side waters, from the surf to the shelf break zone, but from the Gulf Stream shoreward, including *Sargassum*. In addition, all coastal inlets, all state-designated nursery habitats of particular importance to coastal migratory pelagics (for example, in North Carolina this would include all primary nursery areas and all secondary nursery areas).

For cobia, EFH also includes high salinity bays, estuaries, and seagrass habitat. In addition, the Gulf Stream is an EFH because it provides a mechanism to disperse CMP larvae. For king and Spanish mackerel and cobia, EFH occurs in the South Atlantic and Mid-Atlantic Bights.

### **1.4.3. Present Condition of Habitats and Habitat Areas of Particular Concern**

#### ***1.4.3.1. Coastal Spawning Habitat: Condition and Threats Coastal Spawning***

It is reasonable to assume that areas where coastal development is taking place rapidly, habitat quality may be compromised. Coastal development is a continuous process in all states and all coastal areas in the nation are experiencing significant growth. The following section describes particular threats to the nearshore habitats in the South Atlantic that meet the characteristics of suitable spawning habitat for cobia.

One threat to the spawning habitat for cobia is navigation and related activities such as dredging and hazards associated with ports and marinas (ASMFC, 2013). According to the SAFMC (1998), impacts from navigation related activities on habitat include direct removal/burial of organisms from dredging and disposal of dredged material, effects due to turbidity and siltation; release of contaminants and uptake of nutrients, metals, and organics; release of oxygen-consuming substances, noise disturbance, and alteration of the hydrodynamic regime and physical characteristics of the habitat. All of these impacts have the potential to substantially decrease the quality and extent of cobia spawning habitat.

Besides creating the need for dredging operations that directly and indirectly affect spawning habitat for cobia, ports also present the potential for spills of hazardous materials. The cargo that arrives and departs from ports includes highly toxic chemicals and petroleum products. Although spills are rare, constant concern exists since huge expanses of productive estuarine and nearshore habitat are at stake. Additional concerns related to navigation and port utilization are discharge of marine debris, garbage, and organic waste into coastal waters.

Maintenance and stabilization of coastal inlets is of concern in certain areas of the southeastern U.S. Studies have implicated jetty construction to alterations in hydrodynamic regimes, thus, affecting the transport of estuarine-dependent organisms' larvae through inlets (Miller *et al.* 1984, Miller 1988).

#### **1.4.3.2. Estuarine Nursery, Juvenile and Subadult Habitat: Condition and threats**

Coastal wetlands and their adjacent estuarine waters likely constitute primary nursery, juvenile, and sub-adult habitat for cobia along the coast. Between 1986 and 1997, estuarine and marine wetlands nationwide experienced an estimated net loss of 10,400 acres. However, the rate of loss was reduced over 82% since the previous decade (Dahl 2000). Most of the wetland loss resulted from urban and rural activities and the conversion of wetlands for other uses. Along the southeast Atlantic coast, the state of Florida experienced the greatest loss of coastal wetlands due to urban or rural development (Dahl 2000). However, the loss of estuarine wetlands in the southeast has been relatively low over the past decade, although there is some evidence that invasion by exotic species, such as Brazilian pepper (*Schinus terebinthifolius*), in some areas could pose potential threats to fish and wildlife populations in the future (T. Dahl, pers. comm.).

Throughout the coast, the condition of estuarine habitat varies according to location and the level of urbanization. In general, it can be expected that estuarine habitat adjacent to highly developed areas will exhibit poorer environmental quality than more distant areas. Hence, environmental quality concerns are best summarized on a watershed level.

Threats to estuarine habitats of the southeast were described in Amendment 2 to the Red Drum FMP (ASMFC 2002). Due to the cobia's similar dependence on estuarine habitats throughout its early life history, these same threats are likely to impact cobia as well.

Nutrient enrichment of estuarine waters throughout the southeast is a major threat to the quality of estuarine habitat. Forestry practices contribute significantly to nutrient enrichment in the southeast. Areas involved are extensive and many are in proximity to estuaries. Urban and suburban developments are perhaps the most immediate threat to cobia habitat in the southeast. The almost continuous expansion of ports and marinas in the South Atlantic poses a threat to aquatic and upland habitats. Certain navigation-related activities are not as conspicuous as port terminal construction but have the potential to significantly impact the estuarine habitat upon which cobia depend. Activities related to watercraft operation and support pose numerous threats including discharge of pollutants from boats and runoff from impervious surfaces, contaminants generated in the course of boat maintenance, intensification of existing poor water quality conditions, and the alteration or destruction of wetlands, shellfish and other bottom communities for the construction of marinas and other related infrastructure.

Estuarine habitats of the southeast can be negatively impacted by hydrologic modifications. The latter include activities related to aquaculture, mosquito control, wildlife management, flood control, agriculture and silviculture. Also, ditching, diking, draining, and impounding activities associated with industrial, urban, and suburban development qualify as hydrologic modifications that may impact the estuarine habitat. Alteration of freshwater flows into estuarine areas may change temperature, salinity, and nutrient regimes as well as alter wetland coverage. Studies have demonstrated that changes in salinity and temperature can have profound effects in estuarine fishes (Serafy *et al.* 1997) and that salinity partly dictates the

distribution and abundance of estuarine organisms (Holland *et al.* 1996). Cobia may be similarly susceptible to such changes in the physical regime of their environment.

#### **1.4.3.3. Adult Habitat: Condition and Threats**

Threats to the cobia's adult habitat are not as numerous as those faced by postlarvae, juveniles, and subadults in the estuary and coastal waters. Current threats to the nearshore and offshore habitats that adult cobia utilize in the South Atlantic include navigation and related activities, dumping of dredged material, mining for sand and minerals, oil and gas exploration, offshore wind facilities, and commercial and industrial activities (SAFMC 1998).

An immediate threat is the sand mining for beach nourishment projects. Associated threats include burial of bottoms near the mine site or near disposal sites, release of contaminants directly or indirectly associated with mining (i.e. mining equipment and materials), increases in turbidity to harmful levels, and hydrologic alterations that could result in diminished desirable habitat.

Offshore mining for minerals may pose a threat to cobia habitat in the future. Currently, no mineral mining activities are taking place in the South Atlantic. However, various proposals to open additional areas off the Atlantic coast to seabed mining have been introduced by the Federal Executive and Legislative branches.

Offshore wind farms may also pose a threat to cobia habitat throughout different life stages in the future (ASMFC 2012). Currently, no offshore wind farms are established in the United States. However, the Atlantic coast is a potential candidate for future wind farm sites.

### **1.5. IMPACTS OF THE FISHERY MANAGEMENT**

#### **1.5.1. Biological and Environmental Impacts**

Significant recreational fishery overages of the ACL in 2015 and 2016 raise concerns over the future status of the stock and potential of the stock becoming overfished. Adoption of coastwide management measures can provide flexibility to states while maintaining harvest within the ACL and protecting a portion of the spawning stock. Limits on catch can provide additional protection throughout cobia's geographic range to support a sustained population and fishery.

#### **1.5.2. Social Impacts**

Information on fishermen, fishing-dependent businesses, or communities that depend on the cobia fisheries is available in CMP Amendment Framework 4 (SAFMC 2016). In order to understand the impact that any new rules and regulations may have on participants in any fishery, in-depth community profiles need to be developed that will aid in the description of communities involved, both present and historical. Limited social science research has been conducted in communities in the U.S. South Atlantic, and adequate descriptions of the potential effects on communities are not available at this time.



While not an in-depth ethnographic study, a project employing rapid assessment was completed to document the location, type, and history of fishing communities in the South Atlantic region. SAFMC staff worked collaboratively with the University of Florida to describe fishing communities in a broad manner (for example, whether the community is characterized mostly by commercial fishing, for-hire, recreational or some combination of all sectors), and link on-the-ground fieldwork with the collection of as much secondary data as possible. The secondary data included U.S. Census records, landings, permits, and state information. All of this information is used to form a baseline dataset to assist in the measurement of social and economic impacts (Jepson et al. 2006).

#### ***1.5.2.1. Recreational Fishery***

The recreational sector of the cobia fishery is much larger than the commercial sector, and cobia is an important species for recreational anglers and the for-hire sector. Landings estimates indicate that the private recreational sector is the dominant component of the cobia recreational fishery (Table 5), and most landings are associated with Virginia and North Carolina (Table 4).

Implementation of the cobia FMP is expected to impact the recreational sector. Specifically it is likely that social impacts would be most significant for recreational fishermen and for-hire businesses in Virginia and North Carolina. However, the FMP will also allow management to maintain stock health and recreational participation, in addition to consistency in regulations among states.

#### ***1.5.2.2. Commercial Fishery***

The commercial sector has operated primarily as a bycatch fishery for decades. The current ACL for the commercial fishery is 50,000 pounds from Georgia-New York. Current measures and those proposed in this document essentially maintain status quo for the commercial fishery. In accordance with federal policy, should the coastwide ACL be met, a closure would occur. Depending on the timing of any closure, social impacts would vary.

### **1.5.3. Other Resource Management Efforts**

#### ***1.5.3.1. Artificial Reef Development/Management***

Approximately 120,000 acres (155 nm<sup>2</sup>) of ocean and estuarine bottom along the south Atlantic coast have been permitted for the development of artificial reefs (ASMFC 2002). The Georgia Department of Natural Resources is responsible for the development and maintenance of a network of man-made reefs both in estuarine waters and in the open Atlantic Ocean. Funding for the artificial reef program is provided by Federal Aid in Sport Fish Restoration, fishing license revenues, and private contributions. To date, there are 15 reefs within the estuary proper, which are constructed of a variety of materials including concrete rubble, metal cages, and manufactured reef units. These provide habitat for juvenile cobia and other species of recreationally important fishes. In 2001, three "beach" reefs were constructed in locations

within Georgia's territorial waters just off the barrier island beaches. These are experimental in nature, but should provide some habitat for juvenile and adult cobia. There are 19 man-made reefs in the U.S. Exclusive Economic Zone (EEZ) ranging from depths of 40 to 130 feet. These reefs are constructed of a variety of materials including surplus vessels, concrete rubble, barges, bridge spans, and manufactured reef units. Both juvenile and adult cobia are known to use these reefs.

The Florida Fish and Wildlife Conservation Commission's (FWC) Division of Marine Fisheries Management administers a state artificial reef program that provides financial and technical assistance to coastal local governments, nonprofit corporations and state universities to develop artificial reefs and to monitor and evaluate these reefs. To date, there are 919 artificial reefs located in the Atlantic off Florida with 38 of these reefs being located within estuarine waters. The estuarine reefs are located in two Florida counties one being Dade County which has 32 and Palm Beach County which has six. Artificial habitats off Florida range in depth from six feet to 420 feet of water and consist of a variety of materials, i.e., concrete culverts, bridge spans, barges, and decommissioned military ships such as the ex-U.S.S. Hoyt Vandenberg which has become a very popular dive destination. Oyster shells are also used to create artificial habitat in Florida waters, but the FWC does not keep track of these reefs. These artificial habitats should provide habitat for juvenile and adult cobia off Florida's Atlantic coast.

New Jersey has also developed and invested in an artificial reef program, with the state agency involved since 1984. Similarly, Delaware has invested in an artificial reef program, with 14 reef sites within Delaware Bay. Artificial reef construction is especially important in the Mid-Atlantic region, where near shore bottom is usually featureless sand or mud.

States should continue support for habitat restoration projects, including oyster shell recycling and oyster hatchery programs as well as seagrass restoration, to provide areas of enhanced or restored bottom habitat.

### ***1.5.3.2. Bycatch***

Cobia are uncommon bycatch components in most U.S. South and Mid-Atlantic fisheries. Mortalities resulting from cobia released from varying depths in the hook and line fisheries and regulatory discards from the large mesh gill fisheries in North Carolina and Virginia are unknown.

## **1.6. LOCATION OF TECHNICAL DOCUMENTATION FOR FMP**

### **1.6.1. Review of Resource Life History and Biological Relationships**

The PDT has compiled available life history data on cobia, much of which is contained in this document. Readers may review the documents developed for the Coastal Migratory Pelagics FMP by the SAFMC for historical perspective (SAFMC 2016).

**1.6.2. Stock Assessment Document**

The most recent cobia stock assessment (SEDAR 28) was completed in 2013. The stock assessment utilized the Beaufort Assessment Model with data through 2011 (SEDAR 2013). An updated stock assessment and review of stock structure information from genetic and tagging studies is scheduled for completion in 2019.

**1.6.3. Economic Assessment Document**

No economic assessment has been performed.

**1.6.4. Law Enforcement Assessment Document**

ASMFC’s Law Enforcement Committee has prepared a document titled “Guidelines for Resource Managers on the Enforceability of Fishery Management Measures’ (July 2009), which can be used to evaluate the effectiveness of future measures.

**2. GOALS AND OBJECTIVES**

**2.1. HISTORY AND PURPOSE OF THE PLAN**

**2.1.1. History of Prior Management Actions**

No interstate fisheries management program currently exists for Atlantic cobia. At present, four states have implemented harvest regulations for cobia (Table 9).

**Table 9.** 2017 State Recreational Regulations for Atlantic Cobia.

State	Size Limit	Bag Limit	Vessel Limit	Season	Notes
Georgia					
South Carolina	33" FL	1	3 south of Jeremy Inlet, 2 all other areas	See notes	May closure south of Jeremy Inlet
North Carolina	36" FL	1	4	May 1 – September 1	
Virginia	40" TL	1	3	June 1 – September 15	1 fish > 50" TL, No gaffing
Maryland	none	none	none	none	
Delaware	none	none	none	none	Implement federal regulations
New Jersey	37" TL	2	none	none	
New York	37" TL	2	none	none	

Commercial regulations are consistent throughout the management unit with a 33 inch FL minimum size limit (Virginia employs a 37 inch TL size limit) and 2 fish per license holder, with

up to 6 fish allowed per trip, whichever is more restrictive. The one exception is Virginia, which allows 6 fish per trip regardless of the number of license holders on board.

### **2.1.2. Purpose and Need for Action**

Currently there is no interstate management for cobia, but four main reasons have been identified as to why/how interstate management would benefit the fishery:

- 1) A majority of the coastwide catch occurs in state waters;
- 2) Need to maintain catches within the federal ACL;
- 3) Lack of consistent regulations and goals;
- 4) An Interstate FMP establishes a framework to provide greater flexibility to states and address future concerns or changes in the fishery or population.

## **2.2. GOAL**

The goal of the Cobia FMP shall be to provide for an efficient management structure to implement coastwide management measures in a timely manner.

## **2.3. OBJECTIVES**

- 1) Provide a flexible management system to address future changes in resource abundance, scientific information, and fishing patterns among user groups or area.
- 2) Promote cooperative collection of biological, economic, and social data required to effectively monitor and assess the status of the cobia resource and evaluate management efforts.
- 3) Manage the cobia fishery to protect both young individuals and established breeding stock.
- 4) Develop research priorities that will further refine the cobia management program to maximize the biological, social, and economic benefits derived from the cobia population.

## **2.4. SPECIFICATION OF MANAGEMENT UNIT**

The proposed management unit is defined as the cobia (*Rachycentron canadum*) resource from Georgia through New York within U.S. waters of the northwest Atlantic Ocean, from the U.S. Atlantic coastal estuaries eastward to the offshore boundaries of the EEZ. The selection of this management unit is based on genetic analysis and tag-recapture data described in this document.

### **2.4.1. Management Areas**

The proposed management area is the Atlantic coast distribution of the resource from Georgia through New York.

### **2.5. DEFINITION OF OVERFISHING**

The federal The CMP FMP, as amended, specifies that overfishing is occurring when fishing mortality (F) exceeds the maximum fishing mortality threshold (MFMT), which is based on 30% Static Spawning Potential Ratio (SPR). This is determined only through a stock assessment.

Amendment 18 (GMFMC/SAFMC 2014) specified that because there was no Overfishing Level (OFL) recommendation available at that time, overfishing was defined as landings exceeding the ACL. The Councils specified that OFL would be revisited after the stock assessment (SEDAR 28) was complete. Following completion of SEDAR 28, the SAFMC's SSC recommended an OFL based on the stock assessment.

### **2.6. STOCK REBUILDING PROGRAM**

The NMFS lists the status of the cobia population as not overfished and that overfishing is not occurring; therefore, a stock rebuilding program is not required.

## **3. MONITORING PROGRAM SPECIFICATIONS/ELEMENTS**

Upon approval of the FMP, the South Atlantic Species Advisory Panel (AP) will meet as necessary to review stock assessments for cobia (when available) and all other relevant data pertaining to stock status. Based on this information, the AP will prepare and submit a report of recommendations to the Management Board.

The Cobia Technical Committee (TC) will meet annually, or as necessary, to review state management program changes, developments in the fishery, or other changes or challenges in the fishery.

The Cobia Stock Assessment Subcommittee (SAS), in cooperation with the SAFMC SSC, will generally meet every five years to review and update or perform a benchmark stock assessment on Atlantic cobia. This schedule may be modified as needed to incorporate new information and consideration of the Atlantic cobia stock. A new cobia stock assessment through the SEDAR process is scheduled for completion in 2019.

The Cobia Plan Review Team (PRT) will annually review implementation of the management plan and any subsequent adjustments (addenda), and report to the Management Board on any compliance issues that may arise. The PRT will also prepare the annual Cobia FMP Review and coordinate the annual update and prioritization of research needs (see Section 6.2).

### **3.1. ASSESSMENT OF ANNUAL RECRUITMENT**

No programs currently collect data necessary to assess annual recruitment of cobia.

The FMP recommends examination of possible surveys from which Atlantic cobia abundance indices could be developed. These indices would be valuable for informing future stock assessments.

### **3.2. ASSESSMENT OF SPAWNING STOCK BIOMASS**

SEDAR 28 (2013) provides the most current information on spawning stock biomass. While the stock is not currently considered overfished, the 2013 stock assessment does indicate declines in biomass over the last few years of the assessment (terminal year: 2010). New information should be revealed by the stock assessment scheduled for completion in 2019.

### **3.3. ASSESSMENT OF FISHING MORTALITY TARGET AND MEASUREMENT**

SEDAR 28 (2013) provides the most current information on fishing mortality. The stock is not currently considered to be undergoing overfishing. While no definition currently exists for overfishing the cobia resource, recent overages of the ACL raises concerns. New information should be revealed by the stock assessment scheduled for completion in 2019.

### **3.4. SUMMARY OF MONITORING PROGRAMS**

The proposed FMP includes no requirements regarding fishery-dependent monitoring programs, but all state fishery management agencies are encouraged to pursue full implementation of the standards of the Atlantic Coastal Cooperative Statistics Program (ACCSP). The Management Board recommends a transitional or phased-in approach be adopted to allow for full implementation of the ACCSP standards. Until the ACCSP standards are implemented, the Management Board encourages state fishery management agencies to initiate implementation of specific ACCSP modules and/or pursue pilot and evaluation studies to assist in development of reporting programs to meet the ACCSP standards. The ACCSP partners are the 15 Atlantic coast states from Maine through Florida, the District of Columbia, the Potomac River Fisheries Commission, NOAA Fisheries, the U.S. Fish and Wildlife Service, the three federal Fishery Management Councils, and the Atlantic States Marine Fisheries Commission. Participation by program partners in the ACCSP does not relieve states from their responsibilities in collating and submitting harvest/monitoring reports to the Commission as required under the proposed FMP.

#### **3.4.1. Catch, Landings, and Effort Information**

##### ***3.4.1.1. Commercial Catch and Effort Data***

The ACCSP's standard for commercial catch and effort statistics is mandatory, trip-level reporting of all commercially harvested marine species, with fishermen and/or dealers required

to report standardized data elements for each trip by the tenth of the following month. Refer to the ACCSP Program Design document for more details on standardized data elements.

### ***3.4.1.2. Recreational Catch and Effort Data***

The ACCSP has selected the MRIP as the base program for recreational fishing data collection for shore and private boat fishing. The MRIP provides statistics for finfish, but does not cover shellfish fisheries, which will require development of new surveys. The MRIP combines data from two independent surveys to produce estimates of fishing effort, catch, and participation.

#### *3.4.1.2.1. Household Telephone Survey for Effort Data*

For private/rental boats and shore, fishing effort data is collected through a random digit-dialed telephone survey of recreational marine fishing license holders. A “wave” is a two-month sampling period, such as January through February (Wave 1) or March through April (Wave 2). The random-digit dialing survey for effort data is conducted in two-week periods that begin the last week of each wave and continue through the first week of the next wave.

#### *3.4.1.2.2. Intercept Survey for Catch Data*

Catch data for private/rental boats and shore fishing is collected through an access-site intercept survey. State partners are encouraged to increase their involvement in conducting the intercept survey. The ACCSP is addressing transition of conduct of the intercept survey for catch from a contractor to a cooperative agreement involving states at varying levels.

#### *3.4.1.2.3. For-Hire Catch and Effort Data*

The ACCSP has selected the NOAA Fisheries For-Hire Survey as the preferred methodology for collecting data from charterboats and headboats (partyboats), also called the “for-hire” sector. The For-Hire Survey is similar to the MRIP with two major improvements; it uses: 1) a telephone survey to collect fishing effort data from vessel representatives and 2) a validation process for the self-reported data. Catch data are collected in conjunction with the MRIP with the addition of on-board samplers for headboats.

The independent survey components of the For-Hire Survey include: 1) a vessel effort survey; 2) an effort validation survey; 3) an access-site intercept survey for catch data; and 4) at-sea samplers on headboats for catch data. Using the data collected through these surveys, NOAA Fisheries generates catch and effort estimates for for-hire fisheries.

Catch and effort for federally permitted headboats operating in the South Atlantic (North Carolina – Georgia) is monitored through the Southeast Region Headboat Survey conducted by the Southeast Fisheries Science Center. Vessel operators are required to file weekly electronic reports for all trips to report catch and effort. Dockside samplers collect biological samples from the catches, and at-sea observers as mentioned above also sample South Atlantic headboats.

#### *3.4.1.2.4. Vessel Telephone Survey for Effort Data*

The vessel effort survey is a mandatory survey for for-hire vessels that uses a coastwide directory of such vessels as the sampling frame for for-hire fishing effort. The directory is continually updated as intercept and telephone interviewers identify changes in the fleet. Optimal sampling levels will be determined following evaluation of the Atlantic coast For-Hire Survey results from the first three years. Until the optimal sampling level is determined, a minimum of 10% of for-hire vessels or three charterboats and three headboats (whichever is greater), will be randomly sampled each week in each state. A vessel representative, usually the captain, is called and asked to provide information on the fishing effort associated with that vessel during the previous week. Vessel representatives are notified in advance that they have been selected for sampling and an example form is provided. To be included in the sample frame for particular wave, a vessel record must include: 1) at least one vessel representative's telephone number; 2) the name of the vessel or a vessel registration number issued by a state or the U.S. Coast Guard; 3) the county the boat operates from during that wave, and 4) designation as either a charter or guide boat (both called "charter") or headboat.

#### *3.4.1.2.5. Validation Survey for Effort Data*

To validate the self-reported effort data collected through the vessel telephone survey, field samplers periodically check access sites used by for-hire vessels to observe vessel effort. Interviewers record the presence or absence of a for-hire vessel from its dock or slip, and if the vessel is absent, they try to ascertain the purpose of the trip. Those observations are compared to telephone data for accuracy and to make any necessary corrections.

#### *3.4.1.2.6. Catch Data*

Vessels that meet the ACCSP definition of a charterboat, "typically hired on a per trip basis," are sampled for catch data through an intercept site survey of anglers at access points, similar to the MRIP. The intercept survey has been in progress since 1981.

Some Partners collect for-hire effort data using Vessel Trip Reports (VTR), which are mandatory for some vessels and contain all minimum data elements collected by the For-Hire Survey. In areas where the survey runs concurrently with VTR programs, captains selected for the weekly telephone survey are permitted to fax their VTRs in lieu of being interviewed by phone.

#### *3.4.1.2.7. At-Sea Sampling of Headboats*

At-sea samplers collect catch data aboard headboats, defined by the ACCSP as "any vessel-for-hire engaged in recreational fishing that typically is hired on a per person basis." Samples collected at-sea are supplemented by dockside sampling.

### **3.4.2. Biological Information**

The ACCSP has set standards for how biological data should be collected and managed for commercial, recreational, and for-hire fisheries. Trained field personnel, known as port agents



or field samplers, should obtain biological samples. Information should be collected through direct observation or through interviews with fishermen. Detailed fishery statistics and/or biological samples should be collected at docks, unloading sites, and fish houses. Biological sampling includes species identification of fish and shellfish; extraction of hard parts including spines and otoliths; and tissue samples such as gonads, stomachs, and scales.

### **3.4.3. Social and Economic Information**

#### ***3.4.3.1. Commercial Fisheries***

The ACCSP is testing its sociological and economic data collection standards for commercial harvesters. Standards for these types of data for dealers and fishing communities are in development with the Committee on Economics and Social Sciences. The ACCSP should collect baseline social and economic data on commercial harvesters using the following voluntary surveys:

- An annual fixed cost survey directed at the owner/operator,
- A trip cost survey to evaluate variable costs associated with a particular vessel's most recent commercial fishing trip to be directed at the vessel captain, and
- An annual owner/captain/crew/survey to gather sociological information.

Surveys may also be conducted using permit and registration data and vessel trip reports or sampling frames.

#### ***3.4.3.2. Recreational and For-hire Fisheries***

The ACCSP's sociological and economic data for recreational and for-hire fisheries should come from periodic add-ons to existing telephone and intercept surveys. The standard is voluntary surveys of finfish fisheries conducted at least every three years.

### **3.4.4. Observer Programs**

No specific observer programs are in place to monitor the cobia fishery. Observer programs already in place, whether state or federal, may observe capture of cobia in other monitored fisheries or specific gear types. A review of these programs should take place.

## **3.5. STOCKING PROGRAM**

The Virginia Institute of Marine Science (VIMS) began an experimental stocking program in the Chesapeake Bay in 2003 to explore stock enhancement and study juvenile movement and habitat utilization (VIMS 2017). Juvenile cobia were tagged and released into the Chesapeake Bay in 2003, 2006, 2007, and 2008, with more than 300 tagged releases occurring in those first two years. Recapture information indicated habitats ranged from 1-4 m in depth and consisting of sandy and grass-bed bottoms. It is unclear whether this program had any effect on the

population of cobia in Virginia, although it is assumed to have had minimal impact due to the small number of releases.

South Carolina has an experimental stock enhancement program designed to evaluate the methodology necessary for augmenting wild populations. To date experiments have been designed to determine best size and time of year to stock cobia in coastal rivers focused on augmentation of the distinct population segment of cobia in SC. Locally-caught brood stock have been conditioned to spawn in recirculating seawater systems using temperature and photoperiod conditioning and hormone implantations to facilitate final oocyte maturation. To date multiple years of spawning and growout have occurred, and more than 50,000 (60-350 mm TL) cobia have been stocked in the Colleton and Broad Rivers of Port Royal Sound. All fish are genetically identifiable to broodstock group and can be identified in the catch and distinguished genetically from wild-spawned fish. Cobia tissue samples collected from charterboat captains and from carcasses collected at tournaments and cooperating recreational anglers show that as much as 50% of the catch from the 2007 year-class were from hatchery releases and that these animals have persisted in the catch each year since release. This research has demonstrated the application of stock enhancement as an additional management tool for cobia. In addition to research on production of animals, the SCDNR has developed predictive individual-based genetic models to determine the appropriate number of cobia that should be produced and stocked each year in order to grow the population while minimizing any negative impact on the genetic health of the wild population.

### **3.6. BYCATCH REDUCTION PROGRAM**

Bycatch is defined as “portion of a non-targeted species catch taken in addition to the targeted species. It may include non-directed, threatened, endangered, or protected species, as well as individuals of the target species below a desired or regulatory size” (ASMFC 2009a). Bycatch can be divided into two components: incidental catch and discarded catch. Incidental catch refers to retained or marketable catch of non-targeted species, while discarded catch is the portion of the catch returned to the sea because of regulatory, economic, or personal considerations.

The ACCSP’s bycatch standards include both quantitative and qualitative components. The quantitative components include at-sea sampling programs and collection of bycatch data through fisherman reporting systems. The qualitative components include sea turtle and marine mammal entanglement and stranding networks, beach bird surveys, and add-ons to existing recreational and for-hire intercept and telephone surveys. Specific fisheries priorities will be determined annually by the Bycatch Prioritization Committee.

The recreational cobia fishery is largely a directed fishery with bycatch occurring in fisheries directed towards other species. Mortality associated with regulatory discards of undersized cobia or fish taken after the bag limit is reached is largely unknown but likely varies based on depth caught and methods used to boat the catch.

The commercial cobia fishery tends to be a bycatch fishery in the hook and line and large mesh gill net fisheries. Juvenile cobia have been documented as bycatch in shrimp trawls off the

Atlantic coast, although this is not a frequent occurrence. All shrimp trawlers in the South Atlantic are required to use bycatch reduction devices, as of the 1996 Amendment 2 to the Federal Shrimp Fishery Management Plan.

### **3.7. HABITAT PROGRAM**

Particular attention should be directed toward cobia habitat utilization and habitat condition (environmental parameters). A list of existing state and federal programs generating environmental data such as sediment characterization, contaminant analysis, and habitat coverage (marsh grass, oyster beds, submerged aquatic vegetation) should also be produced and updated as new information arises. Habitats utilized by cobia range from the middle portions of estuaries and coastal rivers out to and likely beyond, the shelf break. Thus, virtually any study generating environmental data from estuarine or coastal ocean systems could be of value.

## **4. MANAGEMENT PROGRAM IMPLEMENTATION**

The primary intent of the management program is to complement management actions taken by the SAFMC by maintaining harvest within the coastwide, Atlantic Migratory Group ACL (currently set at 670,000 pounds, with allocations of 620,000 pounds to the recreational fishery and 50,000 pounds to the commercial fishery), while providing the states the flexibility to adjust management to suit their specific state needs. Specific management measures that accomplish this are described in the following sections.

### **4.1. RECREATIONAL FISHERIES MANAGEMENT MEASURES**

In order to complement the current federal FMP and achieve the goals of the proposed ASMFC FMP, this document establishes the following recreational measures.

#### **4.1.1. Size Limits**

All states shall establish a minimum size limit of 36 inches FL by April 1, 2018. A total length equivalent may be considered by the TC and Management Board.

#### **4.1.2. Bag Limit Options**

All states shall establish a 1 fish per person bag limit by April 1, 2018.

#### **4.1.3. Vessel Limit Options**

All states shall establish a daily vessel limit not to exceed 6 fish per vessel by April 1, 2018.

#### **4.1.4. Season and Allocation Options**

Management of the recreational harvest limit shall be accomplished by state-specific seasons and allocations of a recreational harvest limit (RHL) set equivalent to 99% of and monitored

concurrently with the recreational allocation of the federal ACL (initially 620,000 pounds, resulting in an initial allocated RHL of 613,800 pounds). One percent of the amount of the recreational allocation of the federal ACL (initially 6,200 pounds) shall be set aside to account for harvests in *de minimis* states.

State-defined seasons must adhere to soft state-by-state recreational quota shares (harvest targets) of the coastwide RHL. Percentage allocations are based on states' percentages of the coastwide historical landings in numbers of fish, derived as 50% of the 10-year average landings from 2006-2015 and 50% of the 5-year average landings from 2011-2015 (Table 10 shows percentage derivations). Numbers of fish are used for allocation percentages to eliminate confusion from discrepancies in average weights applied to numbers data by the MRIP and SEFSC. Although numbers of fish are used to derive allocation percentages, harvest targets and annual landings will be evaluated in pounds (Table 11 shows state poundage allocations for the initial RHL). The coastwide RHL is only to be divided among states that do not qualify for *de minimis* status. Non-*de minimis* states shall develop harvest control measures to limit catches to their assigned soft harvest target. Proposed state measures must be reviewed and approved by the TC and Management Board for initial implementation by April 1, 2018. Measures approved by the Management Board will remain in place for 3 years.

After 3 years, if a state's average annual landings over the 3-year time period are greater than their annual soft harvest target, that state shall adjust their season length or vessel limits for the following 3 years, as necessary, to prevent exceeding their share in the future.

States reporting an under-harvest over a 3-year period may present a plan to extend seasons or increase vessel limits, if desired, to allow increased harvests that will not exceed the harvest target. Changes to management measures for states with overages or states that wish to liberalize management measures must be reviewed and approved by the TC and Management Board prior to implementation. Determination of state-by-state harvest targets may be re-evaluated by the Management Board if a *de minimis* state exceeds the *de minimis* threshold.

**Table 10.** Average AMG Cobia recreational landings in numbers (n) and percentages of recreational landings from Georgia through Virginia for establishing hard recreational quotas for Options 1 and soft recreational harvest targets for Option 2. Averages are calculated by state for 3-year (2013-2015; Sub-option a), 5-year (2011-2015; Sub-Option b), and 10-year (2006-2015; Sub-Option c) time periods, as well as an average of the 5-year and 10-year time periods (5-yr/10-yr Average; Sub-Option d).

State	a. 3-yr Average (2013-2015)	b. 5-yr Average (2011-2015)	c. 10-yr Average (2006-2015)	d. 5-yr/10-yr Average
Georgia	n = 1,421 4.5%	n = 2,150 9.0%	n = 2,445 10.0%	n = 2,298 9.5%
South Carolina	n = 1,984 6.3%	n = 2,558 10.8%	n = 3,312 13.6%	n = 2,935 12.2%
North Carolina	n = 15,065 48.2%	n = 10,344 43.5%	n = 8,203 33.6%	n = 9,273 38.5%
Virginia	n = 12,799 40.9%	n = 8,714 36.7%	n = 10,465 42.9%	n = 9,589 39.8%
Total	N = 31,269 100%	N = 23,766 100%	N = 24,425 100%	n = 24,095 100%

Data source: SEFSC w/ headboat.

**Table 11.** Division of the coastwide recreational harvest limit of 613,800 pounds (equivalent to the federal ACL, which is currently 620,000 pounds, as reduced by a 1% set aside for *de minimis* states) for cobia by state based on percentages derived from Table 10.

State	a. 3-yr Average (2013-2015) (lbs.)	b. 5-yr Average (2011-2015) (lbs.)	c. 10-yr Average (2006-2015) (lbs.)	d. 5-yr/10-yr Average (lbs.)
GA	27,621	55,242	61,380	58,311
SC	38,669	66,290	83,477	74,885
NC	295,852	267,003	206,237	236,313
VA	251,044	225,265	263,320	244,292

Data source: SEFSC w/ headboat.

## 4.2. COMMERCIAL FISHERIES MANAGEMENT OPTIONS

This document establishes commercial fishery management measures for cobia that complement the existing commercial regulations contained in CMP Amendment 20 (with a 50,000 pound commercial allocation of the coastwide ACL). In accordance with federal policy, should the coastwide ACL be met, a coastwide commercial closure will occur.

### 4.2.1. Size Limit Options

All states shall establish a 33-inch FL minimum size limit for commercial cobia fisheries by April 1, 2018. An equivalent total length may be considered by the TC and Management Board.

#### **4.2.2. Possession Limit Options**

All states shall establish a maximum commercial possession limit of 2 cobia per person, not to exceed 6 cobia per vessel, by April 1, 2018.

### **4.3. HABITAT CONSERVATION AND RESTORATION**

#### **4.3.1. Threats to Cobia Habitat**

Threats to Cobia habitats include the following: loss of estuarine and marine wetlands, coastal development, nutrient enrichment of estuarine waters, poor water quality, hydrologic modifications, and alteration of freshwater flows into estuarine waters.

#### **4.3.2. Recommendations**

1. Where sufficient knowledge is available, states should designate cobia habitat areas of particular concern for special protection. These locations should be accompanied by requirements that limit degradation of habitat, including minimization of non-point source and specifically storm water runoff, prevention of significant increases in contaminant loadings, and prevention of the introduction of any new categories of contaminants into the area.
2. Where habitat areas have already been identified and protected, states should ensure continued protection of these areas by notifying and working with other federal, state, and local agencies. States should advise these agencies of potential threats to cobia and recommend measures that should be employed to avoid, minimize, or eliminate any threat to current habitat quality or quantity.
3. States should minimize loss of wetlands to shoreline stabilization by using the best available information, incorporating erosion rates, and promoting incentives for use of alternatives to vertical shoreline stabilization measures, commonly referred to as living shorelines projects.
4. All state and federal agencies responsible for reviewing impact statements and permit applications for projects or facilities proposed for cobia spawning and nursery areas should ensure that those projects will have no or only minimal impact on local stocks. Any project that would result in the elimination of essential habitat should be avoided, if possible, or at a minimum, adequately mitigated.
5. Each state should establish windows of compatibility for activities known or suspected to adversely affect cobia life stages and their habitats. Activities may include, but are not limited to, navigational dredging, bridge construction, and dredged material disposal, and notify the appropriate construction or regulatory agencies in writing.
6. Each state should develop water use and flow regime guidelines, where applicable, to ensure that appropriate water levels and salinity levels are maintained for the long-term protection and sustainability of the stocks. Projects involving water withdrawal or interruption of water flow should be evaluated to ensure that any impacts are minimized, and that any modifications to water flow or salinity regimes maintain levels within cobia tolerance limits.

7. The use of any fishing gear that is determined by management agencies to have a negative impact on cobia habitat should be prohibited within habitat areas of particular concern. Further, states should protect vulnerable habitat from other types of non-fishing disturbance as well.
8. States should conduct research to evaluate the role of submerged aquatic vegetation (SAV) and other submersed structures in the spawning success, survival, growth and abundance of cobia. This research could include regular mapping of the bottom habitat in identified areas of concern, as well as systematic mapping of this habitat where it occurs in estuarine and marine waters of the states.
9. States should continue support for habitat restoration projects, including oyster shell recycling and oyster hatchery programs as well as seagrass restoration, to provide areas of enhanced or restored bottom habitat.
10. Water quality criteria for cobia spawning and nursery areas should be established, or existing criteria should be upgraded, to ensure successful reproduction of these species. Any action taken should be consistent with Federal Clean Water Act guidelines and specifications.
11. State fishery regulatory agencies, in collaboration with state water quality agencies, should monitor water quality in known habitat for cobia, including turbidity, nutrient levels, and dissolved oxygen.
12. States should work to reduce point-source pollution from wastewater through such methods as improved inspections of wastewater treatment facilities and improved maintenance of collection infrastructure.
13. States should develop protocols and schedules for providing input on water quality regulations and on Federal permits and licenses required by the Clean Water Act, Federal Power Act, and other appropriate vehicles, to ensure that cobia habitats are protected and water quality needs are met.

#### **4.4. ALTERNATIVE STATE MANAGEMENT REGIMES**

States shall obtain prior approval from the Management Board for any changes to their management program for which a compliance requirement is in effect. Changes to non-compliance measures shall be reported to the Management Board but may be implemented without prior Management Board approval. A state may request permission to implement an alternative to any mandatory compliance measure only if that state can show to the Management Board's satisfaction that its alternative proposal would have the same conservation value as the measures contained in this FMP or subsequent amendments or addenda. States submitting alternative proposals shall demonstrate that the proposed action will not contribute to overfishing of the resource. All changes in state plans shall be submitted in writing to the Management Board either as part of the annual FMP Review process or in the Annual Compliance Reports.

#### **4.4.1. General Procedures**

A state may submit a proposal to change its regulatory program or any mandatory compliance measure under the Cobia Fishery Management Plan to the Management Board, including a proposal for *de minimis* status. Such proposals shall be submitted to the Chair of the PRT, who will distribute the proposal to the Management Board, PRT, TC, SAS, and AP.

The PRT shall be responsible for gathering the comments of the TC, SAS, and AP and presenting these comments as soon as possible to the Management Board for decision.

The Management Board shall decide whether to approve the state proposal for an alternative management program if it determines that it is consistent with the goals and objectives of this FMP.

#### **4.4.2. Management Program Equivalency**

The TC, under the direction of the PRT, shall review any alternative state proposals under this section and provide to the Management Board its evaluation of the adequacy of such proposals.

Following the first full year of implementation of an alternate management program, the PRT shall be responsible for evaluating the effects of the program to determine if the measures were equivalent with the standards of the FMP and subsequent amendments or addenda. The PRT will report to the Management Board on the performance of the alternate program.

#### **4.4.3. *De minimis* Fishery Guidelines**

The ASMFC ISFMP Charter defines *de minimis* as “a situation in which, under the existing condition of the stock and scope of the fishery, conservation, and enforcement actions taken by an individual state would be expected to contribute insignificantly to a coastwide conservation program required by a Fishery Management Plan or amendment” (ASMFC 2009b).

States may petition the Management Board at any time for *de minimis* status. Once *de minimis* status is granted, designated states must submit annual reports including commercial and recreational landings to the Management Board, justifying the continuance of *de minimis* status. States must include *de minimis* requests as part of their annual compliance reports.

One percent (1%) of the amount of the recreational allocation of the federal ACL (initially 6,200 pounds) shall be set aside to account for harvests in *de minimis* states. To qualify for *de minimis*, a state’s recreational landings for 2 of the previous 3 years must be less than 1% of the coastwide recreational landings for the same time period. If a state qualifies for *de minimis*, the state may choose to match the recreational management measures implemented by an adjacent non-*de minimis* state (or the nearest non-*de minimis* state if none are adjacent) or the state may choose to limit its recreational fishery to 1 fish per vessel per trip with a minimum size of 29 inches FL. A total length equivalent may be considered by the TC and Management Board. Should a *de minimis* state choose to match an adjacent (or the nearest) non-*de minimis*



state, the *de minimis* state shall be subject to all recreational cobia regulations, including bag, size, vessel, and season restrictions, of their adjacent (or nearest) non-*de minimis* state. *De minimis* states that choose to limit their recreational fisheries to 1 fish per vessel per trip will not be subject to recreational restrictions in fishing season.

Commercial fisheries in *de minimis* states will be subject to coastwide measures outlined in Section 4.2.

#### **4.5. ADAPTIVE MANAGEMENT**

The Management Board may vary the requirements specified in this FMP as a part of adaptive management in order to conserve the cobia resource. Specifically, the Management Board may change target fishing mortality rates, harvest specifications, or other measures designed to prevent overfishing of the stock complex or any spawning component. Such changes shall be instituted to become effective on the first fishing day of the following year, but may be put in place at an alternative time when deemed necessary by the Management Board.

##### **4.5.1. General Procedures**

The PRT shall monitor the status of the fisheries and the resources and report on that status to the Management Board annually or when directed to do so by the Management Board. The PRT shall consult with the TC, SAS, and AP in making such review and report. The report will contain recommendations concerning proposed adaptive management revisions to the management program.

The Management Board shall review the report of the PRT, and may consult further with the TC, SAS, or AP. The Management Board may, based on the PRT Report or on its own discretion, direct the PDT to prepare an addendum to make any changes it deems necessary. An addendum shall contain a schedule for the states to implement its provisions.

The PDT will prepare a draft addendum, as directed by the Management Board, and distribute to the board for approval for public comment. The document will be released for public comment for a minimum of 30 days. A public hearing will be held in any state that requests one. After the comment period, the PDT will summarize the comments and present them to the Board along with the recommendations of the TC, SAS, LEC, and AP, when applicable. The Management Board will choose a management program and approve a final document.

Upon adoption of an addendum implementing adaptive management by the Management Board, states will prepare plans to carry out the addendum and submit them to the Management Board for approval, according to the schedule contained in the addendum.

##### **4.5.2. Measures Subject to Change**

The following measures are subject to change under adaptive management upon approval by the Management Board:

- (1) Fishing year and/or seasons;
- (2) Area closures;
- (3) Overfishing definition, MSY and OY;
- (4) Rebuilding targets and schedules;
- (5) Fishery Specifications
- (6) Catch controls, including bag and size limits;
- (7) Effort controls;
- (8) Bycatch allowance
- (9) Reporting requirements;
- (10) Gear limitations;
- (11) Measures to reduce or monitor bycatch;
- (12) Observer requirements;
- (13) Management areas;
- (14) Recommendations to the Secretaries for complementary actions in federal jurisdictions;
- (15) Research or monitoring requirements;
- (16) Frequency of stock assessments;
- (17) De minimis specifications;
- (18) Management unit;
- (19) Maintenance of stock structure;
- (20) Catch allocation; and
- (21) Any other management measures currently included in the FMP.

#### **4.6. EMERGENCY PROCEDURES**

Emergency procedures are able to be used by the Management Board to require any emergency action that is not covered by or is an exception or change to any provision in the FMP. Procedures for implementation are addressed in the ISFMP Program Charter, Section Six (c) (11) (ASMFC 2009b).

#### **4.7. MANAGEMENT INSTITUTIONS**

The management institution for cobia will be subject to the provisions of the ISFMP Charter (ASMFC 2009b). The following are not intended to replace any or all of the provisions of the ISFMP Charter. All committee roles and responsibilities are included in detail in the ISFMP Charter and are only summarized here.

##### **4.7.1. ASMFC and the ISFMP Policy Board**

The ASMFC and the ISFMP Policy Board are generally responsible for the oversight and management of the Commission's fisheries management activities. The Commission must approve all fishery management plans and amendments, and must make all final determinations concerning state compliance or non-compliance. The ISFMP Policy Board reviews any non-compliance recommendations of the various Management Boards and Sections and, if it concurs, forwards them on to the Commission for action.

#### **4.7.2. South Atlantic State/Federal Fisheries Management Board**

The South Atlantic State/Federal Fisheries Management Board (Management Board) was established under the provisions of the Commission's ISFMP Charter (Section Four; ASMFC 2009b) and will be generally responsible for carrying out all activities under this FMP.

The Management Board establishes and oversees the activities of the Cobia FMP's PDT, PRT, TC, and SAS, as well as the South Atlantic Species AP. Among other things, the Management Board makes changes to the management program under adaptive management and approves state programs implementing the amendment and alternative state programs under Sections 4.4 and 4.5. The Management Board reviews the status of state compliance with the management program, at least annually, and if it determines that a state is out of compliance, reports that determination to the ISFMP Policy Board under the terms of the ISFMP Charter.

#### **4.7.3. Cobia Plan Development Team / Plan Review Team**

The Cobia Plan Development Team (PDT) and Cobia Plan Review Team (PRT) will be composed of a small group of scientists and/or managers whose responsibility is to provide all of the technical support necessary to carry out and document the decisions of the Management Board. An ASMFC FMP Coordinator chairs the PDT and PRT. The PDT and PRT will be directly responsible to the Management Board for providing information and documentation concerning the implementation, review, monitoring and enforcement of the species management plan. The PDT and PRT will be comprised of personnel from state and federal agencies who have scientific and management ability and knowledge of the relevant species. The Cobia PDT is responsible for preparing all documentation necessary for the development of the FMP, using the best scientific information available and the most current stock assessment information. The PDT will either disband or assume inactive status upon completion of the FMP. Alternatively, the Board may elect to retain PDT members as members of the species-specific PRT or appoint new members. The PRT provide annual advice concerning the implementation, review, monitoring, and enforcement of the FMP once it has been adopted by the Commission.

#### **4.7.4. Technical Committee**

The Cobia Technical Committee (TC) will consist of representatives from state and/or federal agencies, Regional Fishery Management Councils, Commission, university or other specialized personnel with scientific and technical expertise and knowledge of the relevant species. The Management Board will appoint the members of a TC and may authorize additional seats as it sees fit. Its role is to act as a liaison to the individual state and federal agencies, provide information to the management process, and review and develop options concerning the management program. The TC will provide scientific and technical advice to the Management Board, PDT, and PRT in the development and monitoring of a fishery management plan or amendment.

#### **4.7.5. Stock Assessment Subcommittee**

The Cobia Stock Assessment Subcommittee (SAS) will be appointed and approved by the Management Board, with consultation from the TC, and will consist of scientists with expertise in the assessment of the relevant population. Its role is to assess the species population and provide scientific advice concerning the implications of proposed or potential management alternatives, or to respond to other scientific questions from the Management Board, TC, PDT or PRT. The SAS will report to the TC and work closely with the Southeast Fishery Science Center and SAFMC SSC in developing upcoming stock assessments.

#### **4.7.6. Advisory Panel**

The South Atlantic Species Advisory Panel (AP) was established according to the Commission's Advisory Committee Charter. Members of the AP are citizens who represent a cross-section of commercial and recreational fishing interests and others who are concerned about the conservation and management of cobia, as well as Spanish mackerel, spot, black drum, red drum, and spotted seatrout, and Atlantic croaker. The AP provides the Management Board with advice directly concerning the Commission's management program for these six species.

#### **4.7.7. Federal Agencies**

##### ***4.7.7.1. Management in the Exclusive Economic Zone (EEZ)***

Management of cobia in the EEZ is within the jurisdiction of the SAFMC under the Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 U.S.C. 1801 et seq.). In the absence of a Council Fishery Management Plan for cobia, management of this species is the responsibility of the NOAA National Marine Fisheries Service (NOAA Fisheries) as mandated by the Atlantic Coastal Fisheries Cooperative Management Act (16 U.S.C. 5105 et seq.).

##### ***4.7.7.2. Federal Agency Participation in the Management Process***

The Commission has accorded the United States Fish and Wildlife Service (USFWS) and NMFS NOAA Fisheries voting status on the ISFMP Policy Board and the South Atlantic State/Federal Fisheries Management Board in accordance with the Commission's ISFMP Charter. NOAA Fisheries and the USFWS may also participate on the Management Board's supporting committees described in *Sections 4.7.3-4.7.6*.

##### ***4.7.7.3. Consultation with Fishery Management Councils***

In carrying out the provisions of this FMP, the states, as members of the South Atlantic State/Federal Fisheries Management Board, will closely coordinate with the SAFMC to cooperatively manage the Atlantic Migratory Group of cobia. In accordance with the Commission's ISFMP Charter, a representative of the SAFMC shall be invited to participate as a full member of the Management Board.

#### **4.8. RECOMMENDATIONS TO THE SECRETARIES FOR COMPLEMENTARY ACTIONS IN FEDERAL JURISDICTIONS**

The SAFMC manages cobia in the EEZ through bag, size limits, trip limits and seasons. It is in the interest of the Interstate FMP to achieve consistency in management efforts in state waters and the EEZ. At present, NOAA fisheries has closed the EEZ to cobia harvest in the recreational fishery to maintain harvest within the prescribed ACL. Because reliance on the EEZ for cobia harvest varies by state, closure impacts vary from south to north. The majority of the recreational harvest off Georgia occurs in the EEZ, while little harvest occurs in the EEZ off Virginia. A primary consideration for the Interstate cobia FMP may be to recommend consistent measures in state and federal waters to avoid in season closures.

#### **4.9. COOPERATION WITH OTHER MANAGEMENT INSTITUTIONS**

At this time, no other management institutions have been identified that will be involved with management of cobia on the Atlantic coast. Nothing in the FMP precludes the coordination of future management collaborations with other management institutions, should the need arise.

### **5. COMPLIANCE**

Full implementation of the provisions of this FMP will be necessary for the management program to be equitable, efficient, and effective. States will be expected to implement these measures faithfully under state laws. Although the ASMFC does not have authority to directly compel state implementation of these measures, it will continually monitor the effectiveness of state implementation and determine whether states are in compliance with the provisions of this fishery management plan. This section sets forth the specific elements states will be required to implement in order to be in compliance with this FMP, and the procedures that will govern the evaluation of compliance. Additional details of the procedures are found in the ASMFC ISFMP Charter (ASMFC 2009b).

#### **5.1. MANDATORY COMPLIANCE ELEMENTS FOR STATES**

A state will be determined to be out of compliance with the provisions of this fishery management plan, according to the terms of Section Seven of the ISFMP Charter if:

- Its regulatory and management programs to implement *Section 4* have not been approved by the Management Board; or
- It fails to meet any schedule required by *Section 5.1.2*, or any addendum prepared under Adaptive Management (*Section 4.5*); or
- It has failed to implement a change to its program when determined necessary by the South Atlantic State-Federal Fisheries Management Board; or

- It makes a change to its regulations required under *Section 4* or any addendum prepared under Adaptive Management (*Section 4.5*), without prior approval of the Management Board.

### **5.1.1. Mandatory Elements of State Programs**

To be considered in compliance with this FMP, all state programs will include harvest controls on cobia fisheries consistent with the requirements of *Sections 4.1, 4.2, 4.3*; except that a state may propose an alternative management program under *Section 4.5*, which, if approved by the Management Board, may be implemented as an alternative regulatory requirement for compliance.

#### ***5.1.1.1. Regulatory Requirements***

Each state will be required to submit its cobia regulatory program to the Commission through the ASMFC staff for approval by the Management Board. During the period from submission until the Board makes a decision on a state's program, a state may not adopt a less protective management program than contained in this amendment or contained in current state law. The following lists the specific compliance criteria that a state/jurisdiction will be required to implement in order to be in compliance with this FMP:

1. All states will establish a maximum possession limit of 1 fish per person and a minimum size limit of 36 inches FL, or an equivalent measure in TL, for their recreational fisheries by April 1, 2018.
2. All states will establish a maximum vessel limit not to exceed 6 fish for all recreational and commercial fisheries by April 1, 2018.
3. States will establish a recreational fishing season to correspond with specific harvest goals for the individual state by April 1, 2018.
4. States will be able to apply for *de minimis* status if for the preceding three years for which data are available, their averaged combined commercial and recreational landings (by weight) constitute less than 1% of the average coastwide combined, commercial and recreational landings for the same period.

Once approved by the Management Board, states will be required to obtain prior approval from the Board for any changes to their management program for which a compliance requirement is in effect. Other measures will be required to be reported to the Board but may be implemented without prior Board approval. A state will be able to request permission to implement an alternative to any mandatory compliance measure only if that state can show to the Board's satisfaction that its alternative proposal would have the same conservation value as the measure contained in this FMP or any subsequent amendments or addenda. States submitting alternative proposals will be required to demonstrate that the proposed action will not contribute to overfishing of the resource. All changes in state plans will need to be

submitted in writing to the Board and to the Commission either as part of the annual FMP Review process or the Annual Compliance reports.

#### **5.1.1.2. Monitoring Requirements**

There are currently no requirements for additional monitoring. Monitoring may be implemented in the future through the Commission's addendum process.

#### **5.1.1.3. Research Requirements**

The PDT has prioritized the research needs for cobia (*Section 6.2*). Appropriate programs for meeting these needs may be implemented under Adaptive Management (*Section 4.5*) in the future.

#### **5.1.1.4. Law Enforcement Requirements**

All state programs will be required to include law enforcement capabilities adequate for successfully implementing that state's cobia regulations. The adequacy of a state's enforcement activity will be monitored annually by reports of the ASMFC Law Enforcement Committee to the PRT. The first reporting period will cover the period from January 1, 2018 to December 31, 2018.

#### **5.1.1.5. Habitat Requirements**

There are no mandatory habitat requirements in the FMP, although requirements may be added under Adaptive Management (*Section 4.5*). See *Section 4.3* for Habitat Recommendations.

### **5.1.2. Compliance Schedule**

States will be required to implement the FMP according to the following schedule:

- |                  |                                                                                                                                                                                                   |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| January 1, 2018: | States must submit programs to implement the FMP for approval by the South Atlantic State-Federal Fisheries Management Board. Programs must be implemented upon approval by the Management Board. |
| April 1, 2018:   | States with approved management programs must implement FMP requirements. States may begin implementing management programs prior to this deadline, if approved by the Management Board.          |

Reports on compliance will be submitted to the Commission by each jurisdiction annually, no later than July 1st, beginning in 2019.

### **5.1.3. Compliance Reporting Content**

Each state will be required to submit an annual report concerning its cobia fisheries and management program for the previous calendar year on July 1. A standard compliance report format has been prepared and adopted by the ISFMP Policy Board. States should follow this format in completing the annual compliance report.

## **5.2. PROCEDURES FOR DETERMINING COMPLIANCE**

Detailed procedures regarding compliance determinations are contained in the ISFMP Charter, Section Seven (ASMFC 2009b). Future revisions to the ISFMP Charter may take precedence over the language contained in this FMP, specifically in regards to the roles and responsibilities of the various groups contained in this section. The following summary is not meant in any way to replace the language found in the ISFMP Charter.

In brief, all states are responsible for the full and effective implementation and enforcement of fishery management plans in areas subject to their jurisdiction. Written compliance reports as specified in the FMP (or subsequent amendments and/or addenda) must be submitted annually by each state with a declared interest. Compliance with the FMP will be reviewed at least annually. The Management Board, ISFMP Policy Board or the Commission, may request that the PRT conduct a review of plan implementation and compliance at any time.

The Management Board will review the written findings of the PRT within 60 days of receipt of a state's compliance report. Should the Management Board recommend to the Policy Board that a state be determined to be out of compliance, a rationale for the recommended non-compliance finding will be included addressing specifically the required measures of the FMP that the state has not implemented or enforced, a statement of how failure to implement or enforce the required measures jeopardizes cobia conservation, and the actions a state must take in order to comply with the FMP requirements.

The ISFMP Policy Board shall, within thirty days of receiving a recommendation of non-compliance from the Management Board, review that recommendation of non-compliance. If it concurs in the recommendation, it shall recommend to the Commission that a state be found out of compliance.

The Commission shall consider any FMP non-compliance recommendation from the Policy Board within 30 days. Any state which is the subject of a recommendation for a non-compliance finding is given an opportunity to present written and/or oral testimony concerning whether it should be found out of compliance. If the Commission agrees with the recommendation of the Policy Board, it may determine that a state is not in compliance with the FMP, and specify the actions the state must take to come into compliance.

Any state that has been determined to be out of compliance may request that the Commission rescind its non-compliance findings, provided the state has revised its cobia conservation



measures or shown to the Management Board and/or Commission's satisfaction that actions taken by the state provide for conservation equivalency.

### **5.3. RECOMMENDED (NON-MANDATORY) MANAGEMENT MEASURES**

The Management Board through this FMP requests that those states outside the management unit (New York through Maine, and Pennsylvania) implement complementary regulations to protect the cobia spawning stock.

### **5.4. ANALYSIS OF ENFORCEABILITY OF PROPOSED MEASURES**

The ASMFC Law Enforcement Committee will, during the implementation of this FMP, analyze the enforceability of new conservation and management measures as they are proposed.

## **6. MANAGEMENT AND RESEARCH NEEDS**

Characterized as High (H), Medium (M), or Low (L) priority, these management and research needs will be reviewed annually as part of the Commission's FMP Review process. The annual Cobia FMP Review will contain an updated list for future reference.

### **6.1. STOCK ASSESSMENT AND POPULATION DYNAMICS**

An updated stock assessment for the Atlantic Migratory Group cobia has been scheduled for completion in 2019, led by SEFSC Beaufort Lab. The assessment will provide updated status information since the terminal year of the last assessment (2012). Anticipated results will include updated stock status and reference points and contribute to recommendations for additional management needs, if any.

### **6.2. RESEARCH AND DATA NEEDS**

#### **6.2.1. Biological**

- Conduct studies to estimate catch and release mortality estimates.
- Obtain better estimates of harvest from the cobia recreational fishery (especially in the for hire sector).
- Increase spatial and temporal coverage of age samples collected regularly in fishery dependent and independent sources. Prioritize collection of age data from fishery dependent and independent sources in all states.
- Collect genetic material to continue to assess the stock identification and any Distinct Population Segments that may exist within the management unit.
- Conduct a high reward tagging program to obtain improved return rate estimates. Continue and expand current tagging programs to obtain mortality and growth information and movement at size data.
- Continue to collect and analyze current life history data from fishery independent and dependent programs, including full size, age, maturity, histology workups and

information on spawning season timing and duration. Any additional data that can be collected on any life stages of cobia would be highly beneficial.

- Conduct studies to estimate fecundity-at-age coastwide and to estimate batch fecundity.
- Obtain better estimates of bycatch and mortality of cobia in other fisheries, especially juvenile fish in South Atlantic states.
- Obtain estimates of selectivity-at-age for cobia through observer programs or tagging studies.
- Define, develop, and monitor adult abundance estimates

#### **6.2.2. Social**

- Obtain better coverage of shore and nighttime anglers.

#### **6.2.3. Economic**

- Obtain better data on the economic impacts of recreational and commercial cobia fishing on coastal communities.

#### **6.2.4. Habitat**

- If possible, expand existing fishery independent surveys in time and space to better define and cover cobia habitats.
- Conduct otolith microchemistry studies to identify regional recruitment contributions.
- Conduct new and expand existing satellite tagging programs to help identify spawning and juvenile habitat use and regional recruitment sources.

#### **6.2.5. State-specific**

##### Georgia

Little is known regarding cobia stocks off Georgia. It is unclear if Georgia has a unique sub-population of East-West migration cobia as seen in other nearby states (South Carolina). Furthermore, the range of habitat types (inshore vs. nearshore) utilized by cobia in Georgia remains unknown. It would be beneficial to better explain the range of habitat utilized by cobia in Georgia as well as identify overwintering locations for Georgia cobia. This could be easily done through a simple acoustic telemetry study. Identifying these basic life history characteristics for cobia in Georgia will aid in the management of the species both at a state and a regional level. Additionally, better socio-economic estimates of the impact of cobia fishing in Georgia would aid in understanding how regulatory changes may impact the economic benefit cobia fishing has throughout Georgia.

## 7. PROTECTED SPECIES

In the fall of 1995, Commission member states, the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) began discussing ways to improve implementation of the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA) in state waters. Historically, these policies have been minimally enforced in state waters (0-3 miles). In November 1995, the Commission, through its Interstate Fisheries Management Program (ISFMP) Policy Board, approved amendment of its ISFMP Charter (Section Six (b)(2)) so that interactions between ASMFC-managed fisheries and species protected under the MMPA, ESA, and other legislation, including the Migratory Bird Treaty Act be addressed in the Commission's fisheries management planning process. Specifically, the Commission's fishery management plans describe impacts of state fisheries on certain marine mammals and endangered species (collectively termed "protected species"), and recommend ways to minimize these impacts. The following section outlines: (1) the federal legislation which guides protection of marine mammals, sea turtles, and marine birds; (2) the protected species with potential fishery interactions; (3) the specific type(s) of fishery interactions; (4) population status of the affected protected species; and (5) potential impacts to Atlantic coastal state and interstate fisheries.

### 7.1. Marine Mammal Protection Act (MMPA) Requirements

Since its passage in 1972, one of the primary goals of the MMPA has been to reduce the incidental mortality and serious injury of marine mammals permitted in the course of commercial fishing operations to insignificant levels approaching a zero mortality and serious injury rate. Under the 1994 Amendments, the MMPA requires the NMFS to develop and implement a take reduction plan to assist in the recovery or prevent the depletion of each strategic stock that interacts with a Category I or II fishery. Specifically, a strategic stock is defined as a stock: (1) for which the level of direct human caused mortality exceeds the potential biological removal (PBR) level; (2) which is declining and is likely to be listed under the Endangered Species Act (ESA) in the foreseeable future; or (3) which is listed as a threatened or endangered species under the ESA or as a depleted species under the MMPA. Category I and II fisheries are those that have frequent or occasional incidental mortality and serious injury of marine mammals, respectively, whereas Category III fisheries have a remote likelihood of incidental mortality and serious injury of marine mammals. Each year, NMFS publishes an annual List of Fisheries which classifies commercial fisheries into one of these three categories.

Under the 1994 mandates, the MMPA also requires fishermen participating in Category I and II fisheries to register under the Marine Mammal Authorization Program (MMAP), the purpose of which is to provide an exception for commercial fishermen from the general taking prohibitions of the MMPA for non-ESA listed marine mammals. All fishermen, regardless of the category of fishery they participate in, must report all incidental injuries and mortalities caused by commercial fishing operations within 48 hours.

Section 101(a)(5)(E) of the MMPA allows for the authorization of the incidental taking of individuals from marine mammal stocks listed as threatened or endangered under the ESA in

the course of commercial fishing operations if it is determined that: (1) incidental mortality and serious injury will have a negligible impact on the affected species or stock; (2) a recovery plan has been developed or is being developed for such species or stock under the ESA; and (3) where required under Section 118 of the MMPA, a monitoring program has been established, vessels engaged in such fisheries are registered in accordance with Section 118 of the MMPA, and a take reduction plan has been developed or is being developed for such species or stock. Permits are not required for Category III fisheries; however, any mortality or serious injury of a marine mammal must be reported.

## **7.2. Endangered Species Act (ESA) Requirements**

The taking of endangered sea turtles and marine mammals is prohibited and considered unlawful under Section 9(a)(1) of the ESA. In addition, NMFS or the USFWS may issue Section 4(d) protective regulations necessary and advisable to provide for the conservation of threatened species. There are several mechanisms established in the ESA to allow exceptions to the take prohibition in Section 9(a)(1). Section 10(a)(1)(A) of the ESA authorizes NMFS to allow the taking of listed species through the issuance of research permits for scientific purposes or to enhance the propagation or survival of the species. Section 10(a)(1)(B) authorizes NMFS to permit, under prescribed terms and conditions, any taking otherwise prohibited by Section 9(a)(1)(B) of the ESA, if the taking is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Finally, Section 7(a)(2) requires federal agencies to consult with NMFS to ensure that any action that is authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat of such species. If, following completion of consultation, an action is found to jeopardize the continued existence of any listed species or cause adverse modification to critical habitat of such species, reasonable and prudent alternatives will be identified so that jeopardy or adverse modification to the species is removed and Section 7(a)(2) is met (see Section 7(b)(3)(A)). Alternatively, if, following completion of consultation, an action is not found to jeopardize the continued existence of any listed species or cause adverse modification to critical habitat of such species, reasonable and prudent measures will be identified that minimize the take of listed species or adverse modification of critical habitat of such species (see Section 7(b)(4)). Section (7)(o) provides the actual exemption from the take prohibitions established in Section 9(a)(1), which includes Incidental Take Statements that are provided at the end of consultation via the ESA Section 7 Biological Opinions.

## **7.3. Migratory Bird Treaty Act (MBTA) Requirements**

Under the Migratory Bird Treaty Act it is unlawful “by any means or in any manner, to pursue, hunt, take, capture, [or] kill” any migratory birds except as permitted by regulation (16 USC. 703). Section 50 CFR 21.11 prohibits the take of migratory birds except under a valid permit or as permitted in the regulations. Many migratory waterbirds occur within the boundaries of cobia fisheries. USFWS Policy on Waterbird Bycatch (October 2000) states: “It is the policy of the U.S. Fish and Wildlife Service that the Migratory Bird Treaty Act of 1918, as amended, legally mandates the protection and conservation of migratory birds. The USFWS seeks to

actively expand partnerships with regional, national, and international organizations, States, tribes, industry, and environmental groups to address seabird bycatch in fisheries, by promoting public awareness of waterbird bycatch issues, and facilitating the collection of scientific information to develop and provide guidelines for management, regulation, and compliance.”

Birds of Management Concern are a subset of MBTA-protected species which pose special management challenges because of a variety of factors (e.g., too few, too many, conflicts with human interests, societal demands). These species are of concern because of: documented or apparent population declines; small or restricted populations; dependence on restricted or vulnerable habitats; or overabundant to the point of causing ecological and economic damage.

#### **7.4. Protected Species with Potential Fishery Interactions**

The management unit of the cobia Atlantic Migratory Group extends from the Georgia/Florida line through New York. There are numerous protected species that inhabit the range of the cobia management unit covered under this FMP. Listed below are ESA and MMPA protected species found in coastal and offshore waters of the Atlantic Ocean within the range of cobia fisheries. USFWS species of management concern that have the potential to interact with cobia fisheries are also listed. Species of management concern are protected under the MBTA, but lack the protections mandated by the ESA.

##### ESA – Endangered<sup>1</sup>

- Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), NY Bight, Chesapeake Bay, Carolina, and South Atlantic Distinct Population Segments (DPSs)<sup>2</sup>
- Shorthnose sturgeon (*Acipenser brevirostrum*)
- Smalltooth sawfish (*Pristis pectinata*)
- Blue whale (*Balaenoptera musculus*)
- Fin whale (*Balaenoptera physalus*)
- Humpback whale (*Megaptera novaeangliae*)
- North Atlantic right whale (*Eubalaena glacialis*)
- Sei whale (*Balaenoptera borealis*)
- Sperm whale (*Physeter microcephalus*)
- Hawksbill sea turtle (*Eretmochelys imbricata*)
- Kemp’s ridley sea turtle (*Lepidochelys kempii*)
- Leatherback sea turtle (*Dermochelys coriacea*)
- Bermuda petrel (*Pterodroma cahow*)

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1 <http://www.nmfs.noaa.gov/pr/species/esa/listed.htm>

2 A distinct population segment (DPS) is a vertebrate population or group of populations that is discrete from other populations of the species and significant in relation to the entire species. The ESA provides for listing species, subspecies, or DPS of vertebrate species.

- Roseate tern (*Sterna dougallii dougallii*), northeastern U.S. and Nova Scotia breeding population

#### ESA – Threatened<sup>3</sup>

- Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), Gulf of Maine DPS
- Nassau grouper (*Epinephelus striatus*)
- Green sea turtle (*Chelonia mydas*), North Atlantic and South Atlantic DPSs
- Loggerhead sea turtle (*Caretta caretta*), Northwest Atlantic Ocean DPS
- Roseate tern (*Sterna dougallii dougallii*), Southeastern U.S. and Caribbean breeding population (FL, GA, NC, SC, Puerto Rico, Virgin Islands)
- Piping plover (*Charadrius melodus*)

#### MMPA – Protected<sup>4</sup>

Includes all marine mammals above in addition to:

- Atlantic spotted dolphin (*Stenella frontalis*)
- Bottlenose dolphin (*Tursiops truncatus*)
- Atlantic white-sided dolphin (*Lagenorhynchus acutus*)
- Clymene dolphin (*Stenella clymene*)
- Pantropical spotted dolphin (*Stenella attenuata*)
- Risso’s dolphin (*Grampus griseus*)
- Rough-toothed dolphin (*Steno bredanensis*)
- Short-beaked common dolphin (*Delphinus delphis*)
- Spinner dolphin (*Stenella longirostris*)
- Striped dolphin (*Stenella coeruleoalba*)
- Gray seal (*Halichoerus grypus*)
- Harbor porpoise (*Phocoena phocoena*)
- Harbor seal (*Phoca vitulina*)
- Minke whale (*Balaenoptera acutorostrata*)
- Cuvier’s beaked whale (*Ziphius cavirostris*)
- Gervais’ beaked whale (*Mesoplodon europaeus*)
- True’s beaked whale (*Mesoplodon mirus*)
- Bryde’s whale (*Balaenoptera edeni*)
- Dwarf sperm whale (*Kogia sima*)
- False killer whale (*Pseudorca crassidens*)
- Killer whale (*Orcinus orca*)
- Long-finned pilot whale (*Globicephala melas*)
- Melon-headed whale (*Peponocephala electra*)

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3 <http://www.nmfs.noaa.gov/pr/species/esa/listed.htm>

4 <http://www.nmfs.noaa.gov/pr/species/mammals>

- Pygmy killer whale (*Feresa attenuate*)
- Pygmy sperm whale (*Kogia breviceps*)
- Short-finned pilot whale (*Globicephala macrorhynchus*)

#### ESA – Species of Concern<sup>5</sup>

- Alewife (*Alosa pseudoharengus*)
- Blueback herring (*Alosa aestivalis*)
- Dusky shark (*Carcharhinus obscurus*)
- Porbeagle shark (*Lamna nasus*)
- Rainbow smelt (*Osmerus mordax*)
- Sand tiger shark (*Carcharias taurus*)
- Speckled hind (*Epinephelus drummondhayi*)
- Striped croaker (*Bairdiella sanctaeluciae*)
- Warsaw grouper (*Epinephelus nigritus*)

#### MBTA—USFWS Species of Management Concern

- Canvasback (*Aythya valisineria*)
- Redhead (*Aythya americana*)
- Greater scaup (*Aythya marila*)
- Lesser scaup (*Aythya affinis*)
- Surf scoter (*Melanitta perspicillata*)
- White-winged scoter (*Melanitta fusca*)
- Black scoter (*Melanitta americana*)
- Long-tailed duck (*Clangula hyemalis*)
- Common goldeneye (*Bucephala clangula*)
- Red-throated loon (*Gavia stellata*)
- Black-capped petrel (*Pterodroma hasitata*)
- Greater shearwater (*Puffinus gravis*)
- Audubon’s shearwater (*Puffinus lherminieri*)
- Band-rumped storm-petrel (*Oceanodroma castro*)
- Masked booby (*Sula dactylaria*)
- Brown booby (*Sula leucogaster*)
- Pied-billed grebe (*Podilymbus podiceps*)
- Horned grebe (*Podiceps auritus*)
- Magnificent frigatebird (*Fregata magnificens*)
- Least tern (*Sternula antillarum*), non-listed Atlantic coast subspecies
- Gull-billed tern (*Gelochelidon nilotica*)

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<sup>5</sup> <http://www.nmfs.noaa.gov/pr/species/concern/>

## 7.5. Protected Species Interactions with Existing Fisheries

### 7.5.1. Brief overview of the Cobia fishery and gears used

Recreational fisheries are prosecuted similarly along the coast. The directed cobia fishery is prosecuted in two distinct ways. Bottom fishing with live or dead baits, often while chumming, in estuarine waters or around inlets or offshore around structure, buoys, markers, natural and artificial reefs. More recently, an active method of searching for fish traveling alone or in small groups on the surface or associated with schools of Atlantic menhaden or other bait fishes has grown in popularity. This newer method has resulted in the further development of the for-hire sector for cobia, as well as the development of specific artificial baits and boat modifications (e.g., towers) to facilitate spotting and catching the fish. A third method primarily prosecuted in offshore waters is to target large rays, large sharks, sea turtles or floating debris around which cobia congregate. Additionally, the Atlantic coast of Florida is starting to see more directed spearfishing pressure on cobia. Specifically, spearfishers are chumming for bull shark and then diving/free-diving to spear cobia that associate with them. Spearfishing also occurs off North Carolina, along with a popular pier fishery.

The recreational fishery also takes cobia as bycatch in offshore bottom fisheries such as snapper/grouper, nearshore trolling for king mackerel, bluefish, and dolphin and any other fishery that employs live or dead bait fished on or near the bottom. While the directed fishery appears to focus more on the spring-summer spawning migration, bycatch, especially offshore, can yield cobia virtually year round. The average recreational cobia landings in Atlantic states north of Florida from 2010-2015 was almost 800,000lb.<sup>6</sup>

The commercial fishery has traditionally been a bycatch in other directed fisheries such as the snapper/grouper hook and line fishery and troll fisheries for various species (e.g., king mackerel, dolphin, wahoo, amberjack). Directed fisheries are generally precluded as a result of the low possession limits, but do occur, specifically Virginia's commercial hook and line fishery. Cobia from for-hire trips may also be sold commercially, depending on the state's permit requirements for selling fish. According to the 2015 biological opinion conducted for the Coastal Migratory Pelagic (CMP) resources in the Atlantic and Gulf of Mexico (GOM), in 2013, the predominant gear types used to capture cobia commercially were hook-and-line (78.2%), followed by diving (i.e., spearfishing; 10.4%), longline (7.5%), and gill net (2.5%); all other gears each accounted for less than 0.5% of the total catch (NMFS, 2015). The average commercial cobia landings in Atlantic states north of Florida from 2010-2015 was 56,158 lbs (ASMFC, 2016). In 2015, the predominant gear types that were used to capture cobia in the Atlantic north of Florida were hook-and-line (46%), gill net (44%), pound net (9%), and unknown gear type (1%)<sup>7</sup>.

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6 SEFSC, recreational ACL dataset

7 <http://www.st.nmfs.noaa.gov/commercial-fisheries/commercial-landings/landings-by-gear/index>



## **7.5.2. Marine Mammals**

NMFS completed a biological opinion on June 18, 2015, evaluating the impacts of the CMP fishery on ESA-listed species. In the biological opinion, NMFS determined that the proposed continued authorization of the CMP Fishery, is not likely to adversely affect any listed whales (i.e., blue, sei, sperm, fin, humpback, or North Atlantic right whales). NMFS also determined that the CMP fishery will have no effect on designated critical habitat for North Atlantic right whale (NMFS, 2015).

The Gulf and South Atlantic CMP hook-and-line fishery (which includes fisheries that capture cobia) is classified in the 2017 MMPA List of Fisheries as a Category III fishery (82 FR 3655; January 12, 2017). This means the annual mortality and serious injury of a marine mammal resulting from the fishery is less than or equal to 1% of PBR, the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. In other words, there is a remote likelihood of or no known incidental mortality and serious injury of marine mammals resulting from these fisheries.

The Gulf and South Atlantic CMP gillnet fishery is classified as Category II fishery in the 2017 MMPA List of Fisheries. This classification indicates an occasional incidental mortality or serious injury of a marine mammal stock resulting from the fishery (1-50% annually of PBR). The fishery has no documented interaction with marine mammals; NMFS classifies this fishery as Category II based on analogy (i.e., similar risk to marine mammals) with other gillnet fisheries.

## **7.5.3. Sea Turtles**

### ***7.5.3.1. Overview***

As mentioned above, the NMFS completed a biological opinion on June 18, 2015, evaluating the impacts of the CMP fishery (including King mackerel, Spanish mackerel, and cobia) on ESA-listed species (NMFS, 2015). According to the biological opinion, green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all likely to be adversely affected by the CMP fishery. Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all highly migratory, travel widely throughout the GOM and South Atlantic, and are known to occur in area of the fishery. The biological opinion evaluated the potential for the following gears to interact with protected species: hook-and-line gear, cast net gear, and gill net gear. The biological opinion found that gill net gear is the only gear used in the CMP fisheries that may adversely affect sea turtles. Gill net gear is used to target both Spanish and king mackerel, but not cobia.

### ***7.5.3.2. Hook-and-line fishing***

The 2015 biological opinion for CMP resources concluded that sea turtles (as well as smalltooth sawfish and Atlantic sturgeon) are not likely to be adversely affected by CMP hook-and-line fishing. The 2015 biological opinion stated: "*The hook-and-line gear used by both commercial*

*and recreational fishers to target CMP species is limited to trolled or, to a much lesser degree (e.g., historically ~2% by landings for king mackerel), jigged handline, bandit, and rod-and-reel gear. Sea turtles, Atlantic sturgeon, and smalltooth sawfish are both vulnerable to capture on hook-and-line gear, but the techniques commonly used to target CMP species makes effects on these listed species extremely unlikely and, therefore, discountable. Sea turtles are unlikely to be caught during hook-and-line trolling because of the speed (4-10 kt) at which the lure is pulled through the water. As cedar plugs and spoons are generally used when trolling, it is unlikely that a sea turtle of any size would actively pursue the gear and get hooked. Likewise, we also believe sea turtles would be unlikely to be snagged by jigged gear as it is deployed at or near the surface and constantly reeled and jigged back to the boat. It is possible that a sea turtle could be incidentally snagged if it comes in contact with a trolled or jigged hook, but the chances of this occurring are extremely low... We believe that CMP species caught on bandit gear or standard rod-and-reel gear (i.e., baited and deployed as passive, vertical gear) are largely bycatch when targeting other species closer to the bottom (e.g., snapper and grouper); use of the gear in this method (i.e., mid-water placement) is not effective at catching mackerel based on available information (e.g., landings data). In summary, we believe effects from these gear types on Atlantic sturgeon, smalltooth sawfish, and sea turtles are extremely unlikely to occur, and are therefore discountable” (NMFS, 2015).*

There is limited information about protected species interactions within recreational fisheries. In 2015, The North Carolina Division of Marine Fisheries conducted a project funded under the ACCSP to examine potential protected species interactions and finfish discards and releases in the recreational cobia hook-and-line fishery. Observations were made via an alternative observer platform, where recreational fishing activity was monitored at close proximity from individuals on state owned vessels. From April 27, 2015, through October 29, 2015, 552 recreational hook-and-line observations (observed fishing trips) were completed over 138 observed fishing days with 16.2% of fishing trips targeting cobia. Observations occurred in inshore (estuarine) and near-shore waters ( $\leq 3$  miles) of Carteret County. No protected species interactions were observed (Boyd 2016).

#### **7.5.3.3. Gill net**

Cobia are generally considered a bycatch species within gill net fisheries. The 2015 biological opinion for CMP resources concluded that gill net gear used in the federal CMP fisheries of the Atlantic and GOM have adversely affected sea turtles, smalltooth sawfish, and Atlantic sturgeon in the past via entanglement and, in the case of sea turtles, via forced submergence (NMFS, 2015).

#### **7.5.3.4. Targeting of large animals**

One known method used to prosecute cobia in offshore waters is to target large rays, large sharks, sea turtles, or floating debris around which cobia congregate. Not much is known about this method or its impacts on protected species.

#### **7.5.4. Sturgeon, smalltooth sawfish, Nassau grouper**

The 2015 biological opinion for CMP resources concluded that gill net gear used in the federal CMP fisheries of the Atlantic and GOM have adversely affected smalltooth sawfish<sup>8</sup> and Atlantic sturgeon in the past via entanglement.

The biological opinion also concluded that smalltooth sawfish and Atlantic sturgeon are not likely to be adversely affected by CMP hook-and-line fishing. Fishers who capture smalltooth sawfish most commonly report that they were fishing for snook, redfish, or sharks (Simpfendorfer and Wiley 2004), not CMP species. Additionally, Atlantic sturgeon and smalltooth sawfish are largely bottom-dwelling species, whereas CMP lures and baits are typically fished near the surface of the water. This also greatly reduces the likelihood of Atlantic sturgeon and smalltooth sawfish interactions with trolling gear (NMFS, 2015).

On June 29, 2016, NMFS published a final rule listing Nassau grouper as threatened under the ESA. Reinitiation of Section 7 consultation on the CMP FMP is needed to address newly listed species. NMFS is currently prioritizing completion of the consultation along with other consultations required after recent listings.

#### **7.5.5. Seabirds**

The roseate tern, Bermuda petrel, and piping plover are the only ESA listed bird species within the mid-and south-Atlantic maritime regions. The roseate tern and Bermuda petrel are uncommon in inshore and coastal waters of the mid- and south-Atlantic and thus, have relatively low likelihoods of interacting with cobia fisheries. Nevertheless, exceptional efforts to avoid deleterious interactions with these species are warranted as they are rare and highly vulnerable to even minimal levels of mortality. The piping plover could be impacted by shore-based fishing activity if individuals were disturbed or killed by vehicles related to fishing efforts. However, during the nesting season, when plovers are highly vulnerable to beach disturbance, sensitive areas are posted and beach access is often restricted.

Bermuda petrels are occasionally seen in the waters of the Gulf Stream off the coasts of North Carolina and South Carolina during the summer. Sightings are considered rare and only occurring in low numbers (Alsop 2001). Roseate terns occur widely along the Atlantic coast during the summer but in the southeast region, they are found mainly off the Florida Keys (unpublished USFWS data). Interaction with fisheries has not been reported as a concern for either of these species. Although, the Bermuda petrel and roseate tern occur within the action area, these species are not commonly found and neither has been described as associating with vessels or having had interactions with the CMP fishery. Framework Amendment 4 to the FMP for CMP resources in the Gulf of Mexico and Atlantic Region concluded that the CMP fishery is not likely to negatively affect the Bermuda petrel and the roseate tern.

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<sup>8</sup> Although smalltooth sawfish are typically found in the peninsula of Florida, there have been recent interactions as far north as North Carolina.

## 7.6. Population Status Review of Relevant Protected Species

### 7.6.1. Marine Mammals

The status review of marine mammal populations inhabiting the Southwest Atlantic are discussed in detail in U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments. The most recent assessment was published in 2016 (Waring et al. 2016). The report presents information on stock definition, geographic range, population size, productivity rates, PBR, fishery specific mortality estimates, and compares the PBR to estimated human-caused mortality and serious injury for each stock.

### 7.6.2. Sea Turtles

All sea turtles that occur in U.S. waters are listed as either endangered or threatened under the ESA. The Kemp's ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*) are listed as endangered. The Northwest Atlantic Ocean DPS of loggerhead turtles (*Caretta caretta*) and the North Atlantic and South Atlantic DPSs of green turtle (*Chelonia mydas*) are listed as threatened. All five of these species inhabit the waters of the U.S. Atlantic and Gulf of Mexico.

Atlantic coastal waters provide important developmental, migration, and feeding habitat for sea turtles. The distribution and abundance of sea turtles along the Atlantic coast is related to geographic location, reproductive cycles, food availability, and seasonal variations in water temperatures. Water temperatures dictate how early northward migration begins each year and are a useful factor for assessing when turtles will be found in certain areas. Sea turtles can occur in offshore as well as inshore waters, including sounds and embayments. More information about sea turtles can be found here:

<http://www.nmfs.noaa.gov/pr/species/turtles/index.html>.

### 7.6.3. Sturgeon, smalltooth sawfish, and Nassau grouper

No estimate of the historical population size of shortnose sturgeon is available. While the shortnose sturgeon was rarely the target of a commercial fishery, it often was taken incidentally in the commercial fishery for Atlantic sturgeon. In the 1950s, sturgeon fisheries declined on the east coast, which resulted in a lack of records of shortnose sturgeon. Shortnose sturgeon has been listed as endangered since 1967. A status assessment of shortnose sturgeon was last published in 2010 (SSSRT, 2010).<sup>9</sup>

In 2012, NOAA Fisheries listed four DPSs of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) as endangered (NY Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs) and one as threatened (Gulf of Maine). More information about Atlantic sturgeon can be found here: <http://www.fisheries.noaa.gov/pr/species/fish/atlantic-sturgeon.html#documents>.

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<sup>9</sup> <http://www.fisheries.noaa.gov/pr/species/fish/shortnose-sturgeon.html>

The U.S. DPS of smalltooth sawfish was listed as endangered in 2003. No accurate estimates of abundance trends over time are available, but available data, including museum records and anecdotal observations from fishers, indicate that the population has declined dramatically by about 95%. Smalltooth sawfish were once common throughout their historic range, but they have declined dramatically in U.S. waters over the last century. Still, there are few reliable data available, and no robust estimates of population size exist.<sup>10</sup>

In 2016, NOAA Fisheries listed Nassau grouper as threatened under the ESA (81 FR 42268; June 29, 2016). While the species still occupies its historical range, overutilization through historical harvest has reduced the number of individuals which in turn has reduced the number and size of spawning aggregations. Although harvest of Nassau grouper has diminished due to management measures, the reduced number and size of spawning aggregations and the inadequacy of law enforcement continue to present extinction risk to Nassau grouper. The Nassau grouper's confirmed distribution currently includes Bermuda and Florida (U.S.A.), throughout the Bahamas and Caribbean Sea. Many earlier reports of Nassau grouper up the Atlantic coast to North Carolina have not been confirmed.

#### **7.6.4. Seabirds**

The overall population status of the Bermuda Petrel is unknown. The Bermuda Petrel is a pelagic seabird, and its range and distribution at sea make it very difficult to survey. It is known to nest only on five small islets in Bermuda. Surveys are limited to the breeding grounds. The total population of the Bermuda Petrel is estimated as 101 breeding pairs (USFWS, 2013).

The roseate tern is a federally protected and endangered seabird that is mainly found in the Northern Hemisphere on the northeastern coast of North America, extending from Nova Scotia to the southern tip of Florida, as well as several islands in the Caribbean Sea. Populations in the northeastern U.S. greatly declined in the late 19th century due to hunting for the millinery, or hat trade. In the 1930s, protected under the MBTA, the population reached a high of about 8,500, but since then, population numbers have declined and stayed in the low range of 2,500 to 3,300. The species was listed in 1987 as endangered in the northeastern U.S. Populations in Florida, Georgia, North Carolina, Puerto Rico, South Carolina and the Virgin Islands are listed as threatened.<sup>11</sup>

The piping plover breeds on coastal beaches from Newfoundland and southeastern Quebec to North Carolina. These birds winter primarily on the Atlantic Coast from North Carolina to Florida, although some migrate to the Bahamas and West Indies. Piping plovers were common along the Atlantic Coast during much of the 19th century, but nearly disappeared due to excessive hunting for the millinery trade. The current population decline is attributed to

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10 <http://www.fisheries.noaa.gov/pr/species/fish/smalltooth-sawfish.html>

11 <https://www.fws.gov/northeast/pdf/Roseatetern0511.pdf>

increased development and recreational use of beaches. The most recent surveys place the Atlantic population at less than 2000 pairs.<sup>12</sup>

## **7.7. Existing and Proposed Federal Regulations/Actions Pertaining to Relevant Protected Species**

### **7.7.1. Marine Mammals**

Species of large whales protected by the ESA that occur throughout the Atlantic Ocean include the blue whale, humpback whale, fin whale, North Atlantic right whale, sei whale, and the sperm whale. Additionally, the West Indian manatee also occurs in both the Gulf of Mexico and the Atlantic Ocean. These species are also considered depleted under the Marine Mammal Protection Act (MMPA). Depleted and endangered designations afford special protections from captures, and further measures to restore populations to recovery or the optimum sustainable population are identified through required recovery (ESA species) or conservation plans (MMPA depleted species). Numerous other species of marine mammals listed under the MMPA occur throughout the Atlantic Ocean.

The MMPA mandates NOAA's NMFS to develop and implement Take Reduction Plans for preventing the depletion and assisting in the recovery of certain marine mammal stocks that are seriously injured or killed in commercial fisheries. In the Atlantic, the following Take Reduction Plans have been developed, which address in part, gears that have been used to capture cobia (gillnet):

- The Atlantic Large Whale Take Reduction Plan is designed to reduce the risk of mortality and serious injury of large whales (right, fin, humpback) incidental to U.S. commercial trap/pot and gillnet fisheries, including Southeast Atlantic gillnet.
- The Bottlenose Dolphin Take Reduction Plan is designed to reduce the incidental mortality and serious injury of the western North Atlantic coastal bottlenose dolphin stock in several coastal fisheries, including the Southeast Atlantic gillnet fishery.

### **7.7.2. Sea turtles**

Under the ESA, and its implementing regulations, taking sea turtles – even incidentally – is prohibited, with exceptions identified in 50 CFR 223.206. The incidental take of endangered species may only legally be authorized by an incidental take statement or an incidental take permit issued pursuant to Section 7 or 10 of the ESA, respectively. According to the 2015 biological opinion on CMP fisheries, green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all likely to be adversely affected by the CMP fishery (NMFS, 2015). Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all highly migratory, travel widely throughout the GOM and South Atlantic, and are known to occur in the

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<sup>12</sup> <https://www.fws.gov/northeast/pipingplover/overview.html>

area of the fishery. The 2015 biological opinion for CMP established an incidental take statement with reasonable and prudent measures and terms and conditions for incidental take coverage in the federal CMP fisheries for sea turtles takes throughout the action area.

On April 6, 2016, NMFS published a final rule (81 FR 20058) listing 11 distinct population segments (DPSs) for green sea turtles. The listing of the DPSs of green turtles triggers reinitiation of consultation under Section 7 of the ESA because the previous opinion did not consider what effects the CMP fishery is likely to have on this species, therefore NMFS must analyze the impacts of these potential interactions. NMFS is also in the process of identifying critical habitat, which will be proposed in a future rulemaking.

In 2013, the North Carolina Division of Marine Fisheries was issued a [permit](#) for the incidental take of listed sea turtles associated with the otherwise lawful large and small mesh gill net fishing in specified inshore estuarine areas. This permit requires North Carolina to close designated areas to avoid approaching the take limit.

Existing NMFS regulations specify procedures that NMFS may use to determine that unauthorized takings of sea turtles occur during fishing activities, and to impose additional restrictions to conserve sea turtles and to prevent unauthorized takings (50 CFR 223.206(d)(4)). Restrictions may be effective for a period of up to 30 days and may be renewed for additional periods of up to 30 days each. In 2007, NMFS issued a regulation (50 CFR 222.402) to establish procedures through which each year NMFS will identify, pursuant to specified criteria and after notice and opportunity for comment, those fisheries in which the agency intends to place observers (72 FR 43176, August 3, 2007). NMFS issues a notice or regulation each year maintaining or updating the fisheries listed on the annual determination. The most recent determination was in December 2016 (81 FR 90330, December 14, 2016). NMFS may place observers on U.S. fishing vessels, either recreational or commercial, operating in U.S. territorial waters, the U.S. exclusive economic zone (EEZ), or on the high seas, or on vessels that are otherwise subject to the jurisdiction of the U.S. Failure to comply with the requirements under this rule may result in civil or criminal penalties under the ESA.

### **7.7.3. Sturgeon, smalltooth sawfish, and Nassau grouper**

Shortnose sturgeon (*Acipenser brevirostrum*) and Atlantic sturgeon (*A. oxyrinchus*) were listed under the ESA in 1967 and 2012, respectively. The Commission and federal government implemented a coastwide moratorium on sturgeon harvest in late 1997 and early 1998. Bycatch remains an important issue in the recovery of Atlantic sturgeon populations throughout their range (ASMFC 2007). The National Marine Fisheries Service established a recovery plan for shortnose sturgeon in 1998.<sup>13</sup>

In 2013, the Georgia Department of Natural Resources was issued a permit for the incidental take of shortnose and Atlantic sturgeon associated with the otherwise lawful commercial shad

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13 [http://www.nmfs.noaa.gov/pr/pdfs/recovery/sturgeon\\_shortnose.pdf](http://www.nmfs.noaa.gov/pr/pdfs/recovery/sturgeon_shortnose.pdf)

fishery in Georgia. In 2014, the North Carolina Division of Marine Fisheries was issued a permit for the incidental take of Atlantic sturgeon DPSs associated with the otherwise lawful commercial inshore gillnet fishery in North Carolina.

The 2015 biological opinion for the Federal CMP fisheries established an incidental take statement with reasonable and prudent measures and terms and conditions for incidental take of Atlantic sturgeon (as well as sea turtles and smalltooth sawfish) throughout the action area (NMFS, 2015). In June 2016, NOAA Fisheries published proposed rules to designate critical habitat for Atlantic sturgeon (81 FR 36077; 6/3/2016 and 81 FR 35701; 6/3/2016).

The U.S. DPS of smalltooth sawfish was listed as endangered in 2003. Critical habitat was designated for it in 2009 (74 FR 45353; 9/2/2009) and a recovery plan was finalized in 2009 as well.<sup>14</sup>

Harvest and possession of Nassau grouper is prohibited in the United States, Puerto Rico, and the U.S. Virgin Islands. NMFS is evaluating potential management actions, such as critical habitat or application of the 4(d) rule in the ESA. When NMFS listed Nassau grouper as threatened, it solicited information from the public that may be relevant to the designation of critical habitat for Nassau grouper. A 4(d) rule provides regulations necessary for the conservation of any threatened species

#### **7.7.4. Seabirds**

Under the ESA and its regulations, take of Bermuda petrels, roseate terns, and piping plovers, even incidentally, is prohibited. The incidental take of an ESA listed species may only be legally authorized by an incidental take statement or incidental take permit issued pursuant to Section 7 or 10 of the ESA. No incidental takes of ESA listed bird species is currently authorized for cobia fisheries.

Section 316(c) of the Magnuson-Stevens Fishery Conservation and Management Act authorizes the Interior and Commerce Departments to undertake projects, in cooperation with industry, to improve information and technology to reduce seabird-fisheries interactions. USFWS seeks to partner with State, regional, and Federal agencies; industry; tribes; and NGOs to facilitate outreach and improve information and technology to reduce seabird bycatch in fisheries within state and Federal waters. A Memorandum of Understanding between NMFS and the USFWS (July 2012) describes additional collaborative efforts recommended to better understand and reduce bird bycatch in fisheries.<sup>15</sup>

Most actions to understand and reduce marine bird bycatch in the U.S. have occurred in Pacific waters. However, in 2011, the USFWS issued a business plan for addressing and reducing marine bird bycatch in U.S. Atlantic fisheries. The plan identified priority goals and actions to

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14 <http://www.nmfs.noaa.gov/pr/pdfs/recovery/smalltoothsawfish.pdf>

15 <https://www.fws.gov/migratorybirds/pdf/management/mounmfs.pdf>



target the following marine bird-fisheries interactions: greater shearwaters in the New England groundfish fishery, and red-throated loons in the mid-Atlantic gillnet fisheries.<sup>16</sup>

## **7.8. Potential Impacts to Atlantic Coastal State and Interstate Fisheries**

Regulations under the take reduction plans for Atlantic large whales and bottlenose dolphins have the potential to impact gill net fisheries that capture cobia as bycatch.

## **7.9. Identification of Current Data Gaps and Research Needs**

### **7.9.1. General Bycatch Related Research Needs**

The following activities would improve our understanding of bycatch of fish and protected species in the Southeast Region. These activities were identified within NMFS' Southeast Regional Office's FY16-20 Strategic Plan<sup>17</sup>:

- In coordination with the Marine Recreational Information Program (MRIP), test and validate the use of on-board recording systems (e.g., electronic logbooks) for capturing information on discarded fishes and bycatch of protected species in the commercial and recreational fisheries including species, length, depth, location, and disposition; priority fisheries include shrimp (including assessing TED compliance), South Atlantic snapper-grouper, other Southeast Region recreational hook-and-line fisheries, and fisheries under take reduction teams.
- Enhance existing tools (e.g., observers, logbook requirements, electronic technologies) to collect bycatch data that inform agency bycatch priorities; priority fisheries include shrimp (including assessing TED compliance), South Atlantic snapper-grouper, other Southeast Region recreational hook-and-line fisheries, and fisheries under take reduction teams.
- Invest in new, innovative fishery monitoring techniques, such as electronic fishing logbooks and video monitoring, to provide a cost effective means of producing more information to effectively quantify bycatch; priority fisheries include shrimp (including assessing TED compliance), South Atlantic snapper-grouper, other Southeast Region recreational hook-and-line fisheries, and fisheries under take reduction teams.
- Improve the discard estimates needed for informing snapper-grouper, reef fish, dolphin wahoo, and coastal migratory pelagic SEDAR assessments in the next 3-5 years.

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16 <https://www.fws.gov/migratorybirds/pdf/management/focal-species/GreaterShearwater.pdf>

17 [http://sero.nmfs.noaa.gov/news\\_room/press\\_releases/2016/pdfs/noaa\\_fisheries\\_southeast\\_regional\\_office\\_science\\_needs\\_12052016.pdf](http://sero.nmfs.noaa.gov/news_room/press_releases/2016/pdfs/noaa_fisheries_southeast_regional_office_science_needs_12052016.pdf)

### 7.9.2. Marine Mammals

The following bycatch related research needs were identified within NMFS' Southeast Regional Office's FY16-20 Strategic Plan<sup>18</sup>:

- Characterize frequency, scope, and scale of bottlenose dolphin interactions with recreational rod/reel fishing gear.
- Enhance and increase observer coverage for gillnet fisheries under the bottlenose dolphin take reduction plans by focusing observer coverage in specific geographic areas and fisheries, improving observer data collection and quality, and measures of fishing effort, as well as coordinating with state observer programs.
- Experimentally investigate possible attractants/deterrents for pilot whale/Risso's dolphins to pelagic longline gear and gear modifications to decrease the likelihood of hooking and/or entanglement.

### 7.9.3. Sea Turtles

Observer coverage of recreational fisheries has been relatively limited (Boyd, 2016). Expansion of observer programs to recreational hook-and-line fisheries would help determine the level of protected species interactions in those fisheries.

The following bycatch related research needs were identified within NMFS' Southeast Regional Office's FY16-20 Strategic Plan<sup>19</sup>:

- Improved methods/models/techniques for estimating sea turtle bycatch in commercial fisheries including accounting for life stage and recovery unit (where applicable) impacts.
- Produce annual bycatch estimates for the shrimp trawl fisheries, pelagic longline, Gulf and South Atlantic reef fish, and Gulf and South Atlantic shark gillnet and bottom longline fisheries.
- Implement monitoring program to assess bycatch of sea turtles in recreational fisheries, including piers, jetties, head boats and FMP covered recreational fisheries.
- Develop tools to reduce recreational fishing bycatch including on piers/jetties.
- Develop and improve analytic methods for sea turtle bycatch estimation and sampling design to optimally allocate observer coverage and identify gaps and recommend improvements/changes to improve sea turtle bycatch information.
- Ensure sea turtle bycatch data collected across fisheries is standardized and contains all necessary elements to assess post interaction mortality and to inform conservation management.

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18[http://sero.nmfs.noaa.gov/news\\_room/press\\_releases/2016/pdfs/noaa\\_fisheries\\_southeast\\_regional\\_office\\_science\\_needs\\_12052016.pdf](http://sero.nmfs.noaa.gov/news_room/press_releases/2016/pdfs/noaa_fisheries_southeast_regional_office_science_needs_12052016.pdf)

19[http://sero.nmfs.noaa.gov/news\\_room/press\\_releases/2016/pdfs/noaa\\_fisheries\\_southeast\\_regional\\_office\\_science\\_needs\\_12052016.pdf](http://sero.nmfs.noaa.gov/news_room/press_releases/2016/pdfs/noaa_fisheries_southeast_regional_office_science_needs_12052016.pdf)

- Conduct gear research and technology transfer to reduce sea turtle interactions and mortalities in both domestic and foreign trawl, longline, and gill net fisheries.
- Develop sea turtle observer programs for commercial fisheries not currently observed but for which data are needed.

#### **7.9.4. Sturgeon**

NOAA Fisheries Southeast Regional Office has identified the following research needs for Atlantic sturgeon<sup>20</sup>:

- Identification of spawning and nursery grounds and overwintering areas.
- Long-term population monitoring programs.
- Population genetics.
- Toxic contaminant and biotoxin impacts and thresholds.
- Develop fish passage devices for sturgeon.
- Impacts of dredging.
- Reducing bycatch and bycatch mortality.

Regarding bycatch, very little information is available on current levels of bycatch and bycatch mortality occurring in fisheries in the Southeast. Research is needed to identify the spatial and temporal distribution of bycatch throughout the species range, and to identify measures that can be implemented to reduce bycatch and/or bycatch mortality.

NOAA Fisheries Southeast Regional Office has identified the following research needs for shorthnose sturgeon<sup>21</sup>:

- Genetic assessments.
- Surveys and presence/absence studies.
- Identification of spawning and nursery grounds and overwintering areas.
- Develop fish passage devices for sturgeon.
- Contaminant research.
- Impacts of dredging.

#### **7.9.5. Sawfish**

The following research needs were identified within NMFS' Southeast Regional Office's FY16-20 Strategic Plan<sup>22</sup>:

- Develop a functional assessment model of juvenile sawfish habitat use within the critical habitat units.

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20 [http://sero.nmfs.noaa.gov/protected\\_resources/sturgeon/documents/ats\\_research\\_priorities.pdf](http://sero.nmfs.noaa.gov/protected_resources/sturgeon/documents/ats_research_priorities.pdf)

21 [http://sero.nmfs.noaa.gov/protected\\_resources/sturgeon/documents/sns\\_research\\_priorities.pdf](http://sero.nmfs.noaa.gov/protected_resources/sturgeon/documents/sns_research_priorities.pdf)

22 [http://sero.nmfs.noaa.gov/news\\_room/press\\_releases/2016/pdfs/noaa\\_fisheries\\_southeast\\_regional\\_office\\_science\\_needs\\_12052016.pdf](http://sero.nmfs.noaa.gov/news_room/press_releases/2016/pdfs/noaa_fisheries_southeast_regional_office_science_needs_12052016.pdf)

- Determine the post-release mortality of sawfish from various types of fishing gear.
- Investigate movements (short-term and seasonal) of adult sawfish to identify aggregation habitats and habitat use patterns.
- Develop habitat models to identify potential sawfish nursery habitats in areas unsurveyed or outside of the currently known habitat areas.
- Continue current sawfish surveys as these will be the basis of monitoring recovery.
- Conduct juvenile sawfish surveys beyond the boundaries of current surveys (e.g., east coast or north of Charlotte Harbor) to refine a baseline abundance estimates and monitor recovery.
- Conduct adult surveys throughout the range of smalltooth sawfish to determine a relative abundance estimate, the distribution of adults, and to identify sawfish mating and pupping habitats.

#### **7.9.6. Seabirds**

- Initiate and expand observer coverage/bycatch monitoring and collection and analysis of bird bycatch data to better understand extent of bird bycatch and identify bycaught bird species within the target fisheries (state waters).
- Collaborate with fishermen to develop and test gear and identify deployment practices that reduce bird bycatch within the target fisheries (state waters).
- Conduct outreach activities to facilitate sharing of bird bycatch information in the target fisheries among agencies, industry and the public.

## 8. REFERENCES

- ASMFC. 2002. Amendment 2 to the Red Drum Interstate Fishery Management Plan. Washington (DC): ASMFC. 162 p.
- ASMFC. 2007. Estimation of Atlantic sturgeon bycatch in coastal Atlantic commercial fisheries of New England and the Mid-Atlantic. Special report to the ASMFC Atlantic Sturgeon Fishery Management Board. Washington (DC), ASMFC. 95 p.
- ASMFC. 2009a. Guide to fisheries science and stock assessments. Washington (DC), ASMFC. 66 p.
- ASMFC. 2009b. Interstate Fisheries Management Program Charter. Washington (DC): ASMFC. 27 p.
- ASMFC. 2012. Offshore Wind in My Backyard? Habitat Management Series #11. Arlington (VA): 10 p.
- ASMFC. 2013. Harbor Deepening: Potential Habitat and Natural Resources Issues. Habitat Management Series #12. Arlington (VA): ASMFC. 10 p.
- ASMFC, 2016. Public Information Document for the Interstate Fishery Management Plan for Cobia.
- Atkinson L.P., D.W. Menzel, and K.A.E. Bush. 1985. *Oceanography of the southeastern U.S. continental shelf*. American Geophysical Union: Washington, DC
- Blanton, J.O., L.P. Atkinson, L.J. Pietrafesa, and T.N. Lee. 1981. The intrusion of Gulf Stream water across the continental shelf due to topographically-induced upwelling. *Deep-Sea Research* 28:393-405.
- Brooks, D.A., and J.M. Bane. 1978. Gulf Stream deflection by a bottom feature off Charleston, South Carolina. *Science* 201:1225-1226.
- Boyd, J. 2016. North Carolina Division of Marine Fisheries. Final Report to National Marine Fisheries Service and Atlantic Coastal cooperative Statistics Program. Grant Award #NA14NMF47400367. 36pp.
- Cobia Tagging. 2017. Virginia Institute of Marine Science. [http://www.vims.edu/research/departments/fisheries/programs/tagging\\_research/cobia/index.php](http://www.vims.edu/research/departments/fisheries/programs/tagging_research/cobia/index.php)
- Collette, B., J. L. Russo, and L. A. Zavala-Camin. 1978. *Scomberomorus brasiliensis*, a new species of Spanish mackerel from the western Atlantic. *Fish. Bull.* 76: 273-280.
- Dahl, T.E. 2000. Status and trends of wetlands in the conterminous United States 1986 to 1997. U.S. Dept. of Interior, USFWS, Washington, DC. 8lp.
- Darden, T.L., M.J. Walker, K. Brenkert, J.R. Yost, and M.R. Denson. 2014. Population genetics of Cobia (*Rachycentron canadum*): implications for fishery management along the coast of the southeastern United States. *Fish. Bull.* 112: 24-35
- Ditty, J.G., and R.F. Shaw. 1992. Larval development, distribution, and ecology of cobia *Rachycentron canadum* (Family: Rachycentridae) in the northern Gulf of Mexico. *Fish. Bull.* 90:668-677
- GMFMC and SAFMC. 1983. Fishery Management Plan, Final Environmental Impact Statement/Regulatory Review, Final Regulations for the Coastal Migratory Pelagic Resource (Mackerels). Prepared by the Gulf of Mexico and South Atlantic Fishery

- Management Councils, February, 1983. Tampa, Florida and Charleston, South Carolina. 399 pp.
- GMFMC/SAFMC. 1992. Amendment 6 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region. Gulf of Mexico Fishery Management Council, Tampa, Florida, and South Atlantic Fishery Management Council, Charleston, South Carolina.
- GMFMC/SAFMC. 2011. Amendment 18 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region. Gulf of Mexico Fishery Management Council, Tampa, Florida, and South Atlantic Fishery Management Council, North Charleston, South Carolina.
- GMFMC/SAFMC. 2014. Amendment 20B to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region. Gulf of Mexico Fishery Management Council, Tampa, Florida, and South Atlantic Fishery Management Council, North Charleston, South Carolina.
- SAFMC. 2016 (in preparation). Framework Amendment 4 to the Fishery Management Plan for Holland, A.F., G.H.M. Riekerk, S.B. Lerberg, L.E. Zimmerman, D.M. Sanger, G.I. Scott and M.H. Fulton. 1996. Assessment of the impact of watershed development on the nursery functions of tidal creek habitats. *In*: G.S. Kleppel and M.R DeVoe (eds.) The South Atlantic Bight land use coastal ecosystems study (LU-CES), pp. 28-31. Univ. of Georgia Sea Grant and S.C. Sea Grant Program. Report of a planning workshop.
- Janowitz, G.S., and L.J. Pietrafesa. 1982. The effects of alongshore variation in bottom topography on a boundary current - topographically-induced upwelling. *Continental Shelf Research* 1:123-141.
- Lee, T.N., C. Rooth, E. Williams, M.F. McGowan, A.F. Szmant, and M.E. Clarke. 1992. Influence of Florida Current, gyres and wind-driven circulation on transport of larvae and recruitment in the Florida Keys coral reefs. *Continental Shelf Research* 12:971-1002.
- Lee, T.N., M.E. Clarke, E. Williams, A.F. Szmant, and T. Berger. 1994. Evolution of the Tortugas Gyre. *Bulletin of Marine Science* 54(3):621-646.
- Lefebvre, L.S., and M.R. Denson. 2012. Inshore spawning of cobia (*Rachycentron canadum*) in South Carolina. *Fish. Bull.* 110:397-412.
- Lovell, SJ, J Hilger, S Steinback, and C Hutt. 2016. The Economic Contribution of Marine Angler Expenditures on Durable Goods in the United States, 2014. U.S. Dep. Commerce, NOAA Tech. Memo. NMFS-F/SPO-165, 72 pp.
- Manooch, Charles S. 1984. Fisherman's guide to fishes of the Southeastern United States. North Carolina Museum of Natural History. Raleigh, North Carolina. 362 pp.
- McClane, A.J. 1974. McClane's new standard fishing encyclopedia and international angling guide. Holt, Rinehart & Winston, NY, 1156 p.
- Menzel D.W., editor. 1993. Ocean processes: U.S. southeast continental shelf. DOE/OSTI -- 11674. U.S. Department of Energy.
- Miller, J.M. 1988. Physical processes and the mechanisms of coastal migrations of immature marine fishes. *In*: M.P. Weinstein (ed.) Larval fish and shellfish transport through inlets, pp. 68-76. American Fisheries Society, Bethesda, MD.
- Musick, S, and L Gillingham. 2016. Virginia Game Fish Tagging Program Annual Report, 2015. Virginia Institute of Marine Science Marine Resources Report No. 2016-05. 102 pp.

- National Marine Fisheries Service. 2015. Endangered Species Act - Section 7 Consultation Biological Opinion. 2015 Reinitiation of Endangered Species Act (ESA) Section 7 Consultation on the Continued Authorization of the Fishery Management Plan (FMP) for Coastal Migratory Pelagic (CMP) Resources in the Atlantic and Gulf of Mexico under the Magnuson-Stevens Fishery Management and Conservation Act (MSFMCA). Available at: [http://sero.nmfs.noaa.gov/protected\\_resources/section\\_7/freq\\_biop/documents/fisheries\\_bo/2015\\_cmp\\_opinion.pdf](http://sero.nmfs.noaa.gov/protected_resources/section_7/freq_biop/documents/fisheries_bo/2015_cmp_opinion.pdf).
- SAFMC. 1998. Habitat plan for the South Atlantic region: essential fish habitat requirements for fishery management plans of the South Atlantic Fishery Management Council. SAFMC, Charleston, SC. 457 p. + appendices.
- Schwartz, F. J. 1989. Zoogeography and ecology of fishes inhabiting North Carolina's marine waters to depths of 600 meters. Pages 335-374 *In* R. Y. George, and A. W. Hulbert, editors. North Carolina coastal oceanography symposium. U.S. Dep. Commerce, NOAA-NURP Rep. 89-2.
- Scott, G. P., D. M. Burn and L. J. Hansen. 1988. The dolphin die off: Long term effects and recovery of the population. Proceedings: Oceans '88, IEEE Cat. No. 88-CH2585-8, Vol. 3: 819-823.
- Serafy, J.E., K.C. Lindeman, T.E Hopkins and J.S. Ault. 1997. Effects of freshwater canal discharges on subtropical marine fish assemblages: field and laboratory observations. *Mar. Ecol. Prog. Ser.* 160: 161-172.
- SEDAR. 2013. SEDAR 28 – South Atlantic Cobia Stock Assessment Report. SEDAR, North Charleston, SC. 420 pp., available online at: <http://www.sefsc.noaa.gov/sedar>.
- Shaffer, R.V., and E.L Nakamura. 1989. Synopsis of biological data on the cobia *Rachycentron canadum* (Pisces: Rachycentridae). NMFS, NOAA Technical Report 82.
- Shortnose Sturgeon Status Review Team (SSSRT). 2010. A Biological Assessment of shortnose sturgeon (*Acipenser brevirostrum*). Report to National Marine Fisheries Service, Northeast Regional Office. November 1, 2010. 417 pp.
- Simpfendorfer, C.A., and T.R., Wiley. 2004. Determination of the distribution of Florida's remnant sawfish population, and identification of areas critical to their conservation. Mote Marine Laboratory, Technical Report July 2, 2004, 37 pp.
- South Atlantic Fishery Management Council. 2016. Framework Amendment 4 to the Fishery Management Plan for Coastal Migratory Pelagics Resources in the Gulf of Mexico and Atlantic Region. NOAA award # FNA10NF4410012. Charleston SC. 148 pp.
- Smith, N.P. 1994. Long-term Gulf-to-Atlantic transport through tidal channels in the Florida Keys. *Bulletin of Marine Science* 54:602-609.
- Smith, Joseph W. 1995. Life history of cobia *Rachycentron canadum* (Osteichthyes: Rachycentridae), in North Carolina Waters. *Brimleyana* 23:1-23.
- U.S. Fish and Wildlife Service. 2013). Cahow of Bermuda Petrel (*Pterodroma cahow*). 5-year review: Summary and Evaluation. [https://ecos.fws.gov/docs/five\\_year\\_review/doc4326.pdf](https://ecos.fws.gov/docs/five_year_review/doc4326.pdf)
- Wang, J.D., J. van de Kreeke, N. Krishnan, and D. Smith. 1994. Wind and tide response in Florida Bay. *Bulletin of Marine Science* 54:579-601.

- Waring, G.T., E. Josephson, K. Maze-Foley, and P.E. Rosel, editors. 2016. US Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2015. NOAA Technical Memorandum NMFS-NE-238. <http://www.nmfs.noaa.gov/pr/sars/region.htm>.
- Yeung, C., and M.F. McGowan. 1991. Differences in inshore-offshore and vertical distribution of phyllosoma larvae of *Panulirus*, *Scyllarus*, and *Scyllarides* in the Florida Keys in May-June, 1989. Bulletin of Marine Science 49:699-714.



***Atlantic States Marine Fisheries Commission***

**DRAFT ADDENDUM I TO THE BLACK DRUM FISHERY  
MANAGEMENT PLAN**



**This draft document was developed for Management Board review and discussion. This document is not intended to solicit public comment as part of the Commission/State formal public input process. Comments on this draft document may be given at the appropriate time on the agenda during the scheduled meeting. If approved, a public comment period will be established to solicit input on the issues contained in the document.**

***ASMFC Vision:  
Sustainably Managing Atlantic Coastal Fisheries***

**February 2018**

# DRAFT DOCUMENT FOR BOARD REVIEW. NOT FOR PUBLIC COMMENT.

## Public Comment Process and Proposed Timeline

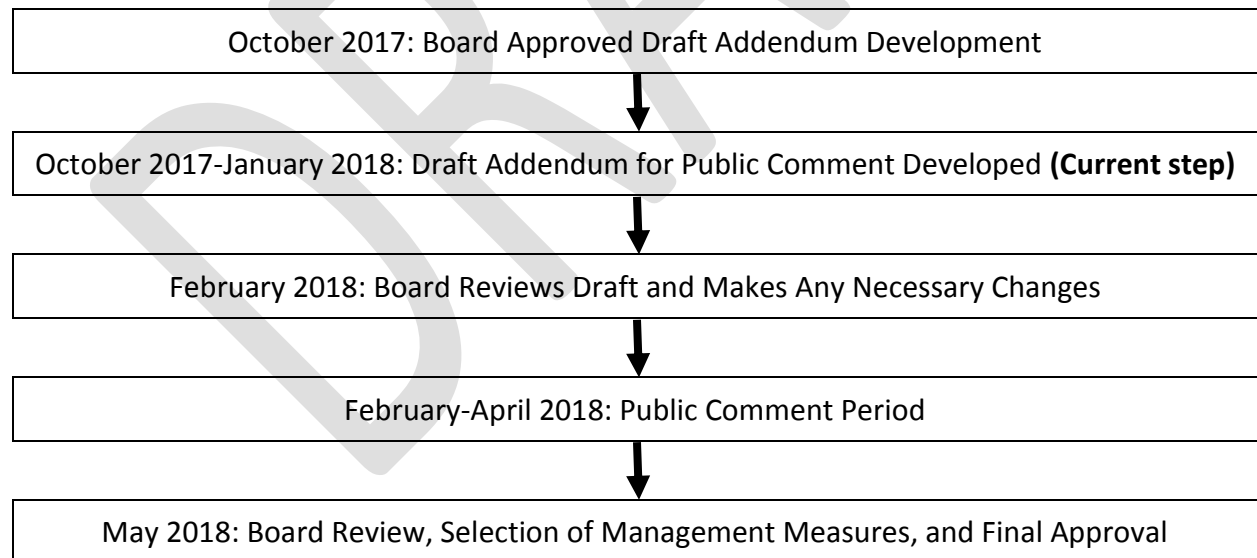
In October 2017, South Atlantic State/Federal Fisheries Management Board (Board) approved a motion to initiate the development of an addendum to the Interstate Fishery Management Plan (FMP) for black drum to consider reopening Maryland’s commercial fishery for black drum in the Chesapeake Bay. This draft addendum presents background on the Atlantic States Marine Fisheries Commission’s (ASMFC) management of black drum, the addendum process and timeline, and a statement of the problem. This document also provides black drum management options for public consideration and comment.

The public is encouraged to submit comments regarding this document at any time during the addendum process. The final date comments will be accepted is XXXX, 2018. Comments may be submitted by mail, email, or fax. If you have any questions or would like to submit comment, please use the contact information below.

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The development of Addendum I to the Black Drum Fishery Management Plan will follow the general process outlined below. Tentative dates are included to illustrate the timeline of the addendum process.



# **DRAFT DOCUMENT FOR BOARD REVIEW. NOT FOR PUBLIC COMMENT.**

## **1.0 Introduction**

The Atlantic States Marine Fisheries Commission's (ASMFC) South Atlantic State/Federal Fisheries Management Board (Board) approved the Interstate Fishery Management Plan for Black Drum (FMP) in June 2013. The goal of the FMP is to provide for an efficient management structure to implement coastwide management measures in a timely manner. ASMFC maintains the primary management authority for black drum in state and federal waters. The management unit for black drum extends throughout the species range along the U.S. Atlantic coast, from Gulf of Maine through Florida, but black drum within this range are primarily caught from New Jersey through Florida.

Draft Addendum I proposes reopening Maryland's commercial black drum fishery in the Chesapeake Bay.

## **2.0 Overview**

### **2.1 Statement of the problem**

Draft Addendum I responds to a proposal from the state of Maryland to reopen their commercial fishery for black drum in the Chesapeake Bay. The FMP requires states to maintain the commercial restrictions that were in place at the time of the FMP's approval. At the time of the FMP's adoption, Maryland's commercial black drum fishery in Chesapeake Bay was in the midst of a closure that was originally intended to be temporary but, after approval of the FMP, has been continued in perpetuity. Maryland has proposed reopening this fishery with daily vessel and minimum size restrictions.

#### **2.1.2 Background**

During the late 1990s, the state of Maryland began a tag and release program for Black Drum in order to gather critical life history, migration, and recreational harvest data for the species. This program compensated commercial watermen for black drum encountered in pound nets. The watermen were prohibited from taking the fish, but were paid for fish that were tagged and released from their nets. In 1998, the tagging program ended, but the verification of black drum caught, and compensation for their release, continued in 1999. The compensation program was eliminated prior to the start of the 2000 season, but commercial harvest was not reinstated. Commercial watermen would periodically request reinstatement of harvest, but this never became a priority issue and commercial harvest remained closed. In 2013, the fishery was formally and permanently closed when ASMFC approved the Interstate Fishery Management Plan for Black Drum in 2013, which states in section 4.2: "In order to avoid the establishment of any new commercial fisheries for black drum, all states shall maintain their current level of restrictions, i.e. no relaxation of current commercial fisheries management measures." As a result of this language in the plan, Maryland's black drum fishery in the Chesapeake Bay was frozen in a commercial moratorium, which is the most conservative management for black drum among the Atlantic states (Table 1).

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**Table 1.** Black drum regulations for 2016. The states of New Jersey through Florida are required to meet the requirements in the FMP. All size limits are total length.

State	Recreational		Commercial			Notes
	Size limit	Bag limit	Size limit	Trip Limit	Annual Quota	
ME - NY	-	-	-	-	-	
NJ	16" min	3/person/day	16" min	10,000 lbs	65,000 lbs	
DE	16" min	3/person/day	16" min	10,000 lbs	65,000 lbs	
<b>MD</b>	16" min	1/person/day 6/vessel (Bay)	16" min		1,500 lbs Atlantic Coast	<b>Chesapeake Bay closed to commercial harvest</b>
VA	16" min	1/person/day	16" min	1/person/day*	120,000 lbs	*without Black Drum Harvesting and Selling Permit
NC	14" min - 25" max; 1 fish > 25" may be retained	10/person/day	14" min - 25" max	500 lbs		
SC	14" min - 27" max	5/person/day	14" min - 27" max	5/person/day		Commercial fishery primarily bycatch
GA	14" min	15/person/day	14" min	15/person/day		
FL	14" min - 24" max; 1 fish >24" may be retained	5/person/day	14" min - 24" max	500 lbs/day		

**3.0 Management Options**

Option 1: Status quo. Current FMP remains in place.

Option 2: Reopen Maryland’s commercial fishery for black drum in the Chesapeake Bay with a 10 fish daily vessel limit and a 28 inch minimum total length size limit.

Maryland’s proposal indicates that the vessel and size limits of Option 2 would result in an effective daily trip limit of approximately 500 pounds, allowing comparable harvests to states like North Carolina and Florida, which currently have 500 pound per day commercial limits. The Black Drum Technical Committee (TC) has reviewed the following rationale for these limits and recommended that reopening of this fishery under the restrictions proposed by Option 2 would

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not likely result in overfishing of the stock. The TC also recommends that, in addition to fulfilling commercial reporting requirements of the FMP, biological monitoring of black drum caught by this fishery should be conducted to collect valuable stock assessment information such as length, weight, and age.

*Vessel Limit Rationale:* Maryland DNR conducted a tagging study from 1995-1997 in which 457 black drum were weighed. Mean weight for fish over 28 inches was 46.6 pounds, indicating a ten-fish limit would be similar to a 500 pound per day limit. More so, in this tagging study, 91 percent of the weights were taken in 1997, which appeared to be a year in which mean length of landed black drum (1,104 mm total length, n = 900) may have been higher than normal. Since 1993, Maryland DNR has conducted an ongoing pound net survey which infrequently encounters black drum (n = 131). When they are encountered, mean length in the pound net survey was observed to be 883 mm total length from 1993-2016. The fact that smaller black drum were encountered in the pound nets also suggests that 10 fish harvested from pound nets will often weigh less than 500 pounds per day.

*Size Limit Rationale:* The 28-inch total length size limit represents the length of 100% maturity and would ensure no increase in harvest mortality on immature black drum. Tagging study and pound net survey length frequencies indicate 3% and 37% of black drum, respectively, would have been discarded if a 28-inch size limit had been in place. Again, the broader time period of the pound net survey takes more inter annual variability into account, making it likely, that in the long term, the higher discard rate is more accurate.

*Estimated Impacts of Option 2:* From 1973-1997, the time period for which landings by area are available in Maryland, Chesapeake Bay commercial black drum harvest ranged from zero to 41,552 pounds, with an annual average harvest of 11,475 pounds. The majority of these landings were taken in pound nets. There were no commercial harvest restrictions from 1973-1993. A 16-inch minimum total length size limit and 30,000 pound annual Chesapeake Bay commercial quota was implemented from 1994-1997. Compared to the 2015 total coast-wide harvest of 1,486,327 pounds, the addition of Maryland's historical average or maximum Chesapeake Bay harvest would lead to an estimated increase in coast-wide harvest of 0.8% or 2.8%, respectively. Option 2 is more restrictive than the regulations that were in place from 1973 to 1997, so impacts of Maryland harvest to the coast-wide total would likely be on the low end of this range.

The 2015 coast-wide benchmark stock assessment (data through 2012) indicated the stock was not overfished and overfishing was not occurring. The current total harvest target is 2.12 million pounds and the threshold is 4.12 million pounds. In 2016, total harvest was 28% below the target (1.53 million pounds), indicating additional landings from reopening the Maryland Chesapeake Bay commercial harvest, at the proposed level, would unlikely result in exceeding the target in the future and would very unlikely lead to overfishing.

### **4.0 Compliance**

If approved by the Board, to implement this Draft Addendum, Maryland must submit regulatory language that complies with this Draft Addendum by XXXX, 2018, with implementation

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scheduled for XXXX, 2018. Maryland would also annually report additional landings from this fishery, in accordance with the requirements of the FMP.

DRAFT



# Atlantic States Marine Fisheries Commission

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## MEMORANDUM

January 18, 2018

**To:** South Atlantic State/Federal Fisheries Management Board  
**From:** Atlantic Croaker Technical Committee and Spot Plan Review Team  
**Subject:** Recommended Updates to the Annual Traffic Light Analyses for Atlantic Croaker and Spot

In 2017, benchmark stock assessments were completed for Atlantic croaker and spot. Neither of these assessments were recommended for management use due in part to conflicting signals from abundance and harvest time series. To improve the annual Traffic Light Analyses (TLA) conducted for these species, which monitor these fisheries using abundance and harvest time series, the South Atlantic State/Federal Fisheries Management Board (Board) tasked the Atlantic Croaker Technical Committee (TC) and Spot Plan Review Team (PRT) with exploring potential updates to the TLAs for both species.

The TC and PRT recommend the following changes to the annual Atlantic croaker TLA:

1. Incorporation of indices from the Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAAP) and the South Carolina Department of Natural Resources (SCDNR) Trammel Net Survey into the adult composite characteristic index, in addition to the currently used indices from the Northeast Fishery Science Center (NEFSC) Multispecies Bottom Trawl Survey and Southeast Area Monitoring and Assessment Program (SEAMAP).
2. Use of revised adult abundance indices from the surveys mentioned above, in which age-length keys and length composition information are used to estimate the number of adult (age 2+) individuals caught by each survey.
3. Use of regional metrics to characterize the fisheries north and south of the Virginia-North Carolina state border. The ChesMMAAP and NEFSC surveys would be used to characterize abundance north of the border, and the SCDNR Trammel Net and SEAMAP surveys would be used to characterize abundance south of the border.
4. Change/establish the reference time period for all surveys to be 2002-2012.
5. Change the triggering mechanism to the following: Management action will be triggered according to the current 30% red and 60% red thresholds if both the abundance and harvest thresholds are exceeded in any 3 of the 4 terminal years.

The TC and PRT recommend the following changes to the annual spot TLA:

1. Incorporation of indices from ChesMMAP and the North Carolina Division of Marine Fisheries (NCDMF) Pamlico Sound Survey, Program 195, into the adult composite characteristic index, in addition to the currently used NEFSC and SEAMAP indices.
2. Use of revised adult abundance indices from the surveys mentioned above, in which age-length keys and length composition information are used to estimate the number of adult (age 1+) individuals caught by each survey.
3. Use of regional metrics to characterize the fisheries north and south of the Virginia-North Carolina state border. The ChesMMAP and NEFSC surveys would be used to characterize abundance north of the border, and the NCDMF Program 195 and SEAMAP surveys would be used to characterize abundance south of the border.
4. Change/establish the reference time period for all surveys to be 2002-2012.
5. Change the triggering mechanism to the following: Management action will be triggered according to the current 30% red and 60% red thresholds if both the abundance and harvest thresholds are exceeded in any 2 of the 3 terminal years.

In addition to the above changes to the TLA triggering mechanisms, the TC/PRT recommend annual PRT review of juvenile abundance indices and shrimp trawl discards for both species. The TC/PRT recommend these data be used regularly only as supplemental information, but with the potential for PRT recommendation of management action if these or other data indicate action is warranted, even in years when management action is not required by the triggering mechanisms.

A summary of the call on January 16, 2018, on which the TC and PRT discussed and decided upon these changes is attached for your reference.

Enc: Atlantic Croaker TC/Spot PRT Jan 16, 2018, Call Summary



**Atlantic States Marine Fisheries Commission**  
**Atlantic Croaker Technical Committee and Spot Plan Review Team**

**Call Summary**

*January 16, 2018*  
*10:00 a.m.-12:00 p.m.*

**Attendees**

**Technical Committee/Plan Review Team:** Tim Daniels (NJ), Michael Grego (DE), Harry Rickabaugh (MD), Ryan Jiorle (VA), Dan Zapf (NC), Chris McDonough (TC Chair, SC), Dawn Franco (GA), Joseph Munyandorero (FL)

**ASMFC Staff:** Jeff Kipp, Michael Schmidtke

**Summary**

A conference call was held on January 16, 2018 to review potential changes to the Traffic Light Analysis (TLA) for both spot and Atlantic croaker. Jeff Kipp gave an update of the work done by the sub-group analyzing the available data and exploring alternative configurations of the TLA to improve its utility in informing the board on current stock status. The use of Relative Exploitation along with the TLA was also presented and discussed. The TLA and indices used for both species are very similar. Therefore spot was reviewed and discussed in detail first, including working through a decision tree to provide a recommended TLA configuration to the board. Once this was completed croaker was reviewed with some discussion where there were differences compared to spot, and the same decision tree was used to develop a recommended Atlantic croaker TLA. The discussion points below apply to both species unless otherwise noted.

Jeff presented a background of the current TLAs and how the signals given by the Harvest metric (commercial and recreational landings) and the Adult Abundance metric (independent offshore trawl surveys) do not agree, particularly a continued decline in harvest in recent years, with generally increasing or stable index values. Closer examination of the data indicated the indices were being influenced by age zero fish, particularly in years with strong recruitment. Indices were split into adult and juvenile components. The SEAMAP spring index was determined to be a better indicator of adult abundance, and the fall index better indexes juveniles. Inclusion of additional indices including ChesMMAP for spot and croaker, the South Carolina trammel net survey for croaker and the NC DMF program 195 for spot were also explored, since they have adequate time series and provide information on adult abundance in inshore waters. The SC trammel net survey also provides a wider range of adults. Unlike SEAMAP and NMFS, the NC DMF P195 and ChesMMAP are showing a steady decline in abundance in recent years. There was also evidence of differences in the Mid-Atlantic and South Atlantic trends, suggesting a regional split may be appropriate. The working group also suggesting moving to a two out of three years trip mechanism for spot (as compared to the current 2 consecutive years) and 3 out of 4 years for croaker instead of the current 3 consecutive years.

A question was raised as to why juvenile indices are only used as informative and not as a trigger mechanism. The reason for this is the lack of a significant stock recruit relationship for either species, leading to environmental factors having a stronger influence on recruitment than adult abundance.

The use of relative exploitation in place of the TLA was discussed. The effects of the shrimp trawl fishery would not be incorporated in the annual trigger exercise, potentially affecting results, but would be considered as an informative index in a similar manner to the juvenile indices. The group felt the TLA was more familiar and easier to understand for the board and the general public. The relative exploitation methods presented were also very conservative, and likely would need more work on determining the appropriate reference points. For these reasons the consensus was to continue with the TLA.

In discussing which indices to include, there was some concern raised that the offshore indices, particularly the NMFS trawl survey, may not be accurately tracking adult abundance of these species, even when split out by age. This would be due to timing of the migration of fish offshore compared to the timing of the survey, in some years these two events may occur at the same time, but in others they may not. Changes in habitat use from inshore to offshore may also be occurring, so the consensus was to continue using these surveys and to add in the inshore surveys as well (2 inshore and 2 offshore for each species). The group also agreed to use the age 1+ indices for spot, and the age 2+ indices for croaker.

Whether to split the TLAs regionally into Mid-Atlantic (VA north) and South Atlantic (NC south) was discussed in detail. Clarification was made that the split would be due to fishery differences and not because the biology of the species suggested it was needed. Recruitment indices tend to track across regions, but landings and index values show more continuity within region than across. It was also pointed out that the shrimp trawl fishery occurs primarily in the south Atlantic, and the dynamics of Chesapeake Bay likely differ from southern estuaries. Including ChesMMA in the Mid-Atlantic region requires changing the reference time period to begin in 2002 as this was the first year for the ChesMMA survey. By using regional TLAs the south Atlantic could keep a longer time series, although the same TLA reference time period would be used for both regions. Consensus was reached that the TLAs should be split by region due to differences in the fishery trends and characteristics.

Based on the decisions above the reference period for both species needed to be changed to accommodate the shorter time series of the ChesMMA survey. The group discussed whether to have different reference periods for each region, and whether the 2002-2012 time frame was appropriate for both species. The consensus was to maintain consistency between regions, and that the 2012 cutoff was appropriate to avoid including several very low harvest years in the recent time frame, but still include variability within the data sets.

Clarification was given as to how the current 30%/60% red thresholds were selected, and consensus was to continue using those values.

The tripping mechanism was discussed for each species. The current requirement of two (spot) or three (croaker) consecutive years of red above either of the thresholds to trigger management may be too stringent. Since recruitment is not strongly tied to abundance, a

single strong year-class from a low adult abundance could potentially provide a value of red below 30%, requiring two or three more very poor years before management would be considered. If this occurred more than once, with a continued decline in long term adult abundance, this could lead to recruitment failure, particularly in spot. Group consensus was for a two out of three years above a red threshold occurring for spot and three out of four years for croaker, and both metrics would need to trip in the same three (spot) or four (croaker) year time frame.

There also was a discussion on the inclusion of effort data for either the recreational or commercial fishery. Primarily revolving around the reliability of effort data that could be produced for these species. It was generally agreed upon that including that information would be ideal, but developing a reliable effort data stream would be a very large undertaking, that may not prove successful.

# Atlantic States Marine Fisheries Commission

## Atlantic Striped Bass Management Board

*February 7, 2018  
3:00 – 4:30 p.m.  
Arlington, Virginia*

### Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*M. Armstrong*) 3:00 p.m.
2. Board Consent 3:00 p.m.
  - Approval of Agenda
  - Approval of Proceedings from October 2017
3. Public Comment 3:05 p.m.
4. Review and Consider Maryland Conservation Equivalency Proposal **Final Action** 3:15 p.m.
  - Maryland Conservation Equivalency Proposal Overview (*M. Luisi*)
  - Technical Committee Report (*N. Lengyel*)
  - Law Enforcement Committee Report (*M. Robson*)
  - Advisory Panel Report (*M. Appelman*)
  - Consider Maryland Conservation Equivalency Proposal (*M. Armstrong*)
5. 2018 Benchmark Stock Assessment Progress Update (*K. Drew*) 4:20 p.m.
6. Other Business/Adjourn 4:30 p.m.

The meeting will be held at the Westin Crystal City 1800 Jefferson Davis Highway, Arlington, Virginia; 703.486.1111

**MEETING OVERVIEW**  
**Atlantic Striped Bass Management Board Meeting**

**February 7, 2018**  
**3:00 – 4:30 p.m.**  
**Arlington, Virginia**

Chair: Mike Armstrong (MA) Assumed Chairmanship: 02/18	Technical Committee Chair: Nicole Lengyel (RI)	Law Enforcement Committee Rep: Kurt Blanchard (RI)
Vice Chair: Michelle Duval (NC)	Advisory Panel Chair: Louis Bassano (NJ)	Previous Board Meeting: October 19, 2017
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, DC, PRFC, VA, NC, NMFS, USFWS (16 votes)		

**2. Board Consent**

- Approval of Agenda
- Approval of Proceedings from October 2017

**3. Public Comment** – At the beginning of the meeting, public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance, the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

<p><b>4. Review and Consider Maryland Conservation Equivalency Proposal</b>  <b>(3:15 p.m. – 4:20 p.m.) Final Action</b></p> <p><b>Background</b></p> <ul style="list-style-type: none"> <li>• Maryland submitted a conservation equivalency proposal for its summer/fall recreational striped bass fishery in the Chesapeake Bay (<b>Briefing Materials</b>)</li> <li>• Maryland’s summer/fall fishery (May 16-Dec 20) in the Chesapeake bay is currently regulated by a two fish bag limit with a 20” minimum size limit where only one fish can be greater than 28” minimum size.</li> <li>• Proposed measures include a reduced minimum size limit of 19” during all or part of the summer/fall months, or year round in conjunction with a mandatory circle hook requirement for recreational bait fishermen.</li> <li>• The Technical Committee, Advisory Panel and Law Enforcement Committee met via webinar, separately, to review the proposed measures and provide their respective comments and recommendations for Board consideration (<b>Briefing Materials</b>)</li> </ul> <p><b>Presentations</b></p> <ul style="list-style-type: none"> <li>• Technical Committee Report by N. Lengyel</li> </ul>
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<ul style="list-style-type: none"><li>• Law Enforcement Committee Report by M. Robson</li><li>• Advisory Panel Report by M. Appelman</li></ul>
<b>Board Actions for Consideration</b> <ul style="list-style-type: none"><li>• Consider Maryland Conservation Equivalency Proposal</li></ul>

<b>5. 2018 Benchmark Stock Assessment Progress Update (4:20 p.m. – 4:30 p.m.)</b>
<b>Background</b> <ul style="list-style-type: none"><li>• A benchmark stock assessment is currently underway and schedule for peer review at the end of 2018.</li></ul>
<b>Presentations</b> <ul style="list-style-type: none"><li>• Benchmark Stock Assessment Progress Update by K. Drew</li></ul>

## 6. Other Business/Adjourn

## Atlantic Striped Bass

### Activity level: High

**Committee Overlap Score:** Medium (TC/SAS/TSC overlaps with BERP, Atlantic menhaden, American eel, horseshoe crab, shad/river herring)

#### Committee Task List

- TC – June 15<sup>th</sup>: Annual compliance reports due
- TC/SASC/TSC – All Year: benchmark stock assessment
  - Mar./Apr. 2018: Modeling Workshop I
  - May 2018: Updated data submission for Assessment through 2017
  - July 2018: Modeling Workshop II
  - Sept. 2018: Final SASC call/webinar to approve stock status determination
  - 1st week of Oct. 2018: All Draft Report components due to staff
  - 2nd week of Nov. 2018: Assessment Report due to external peer-review panel
  - Nov. 27-30, 2018: Peer review (SAW/SARC 66)

**TC Members:** Nicole Lengyel (RI, TC Chair), Kevin Sullivan (NH, Vice Chair), Alex Aspinwall (VA), Alexei Sharov (MD), Carol Hoffman (NY), Charlton Godwin (NC), Edward Hale (DE), Ellen Cosby (PRFC), Gail Wippelhauser (ME), Gary Nelson (MA), Heather Corbett (NJ), Jeremy McCargo (NC), Kurt Gottschall (CT), Luke Lyon (DC), Michael Kaufmann (PA), Peter Schuhmann (UNCW), Winnie Ryan, Gary Shepherd (NMFS), Steve Minkinen (USFWS), Wilson Laney (USFWS), Katie Drew (ASMFC), Max Appelman (ASMFC)

**SAS Members:** Edward Hale (DE, Chair), Gary Nelson (MA, Vice Chair), Alexei Sharov (MD), Hank Liao (ODU), Justin Davis (CT), Michael Celestino (NJ), John Sweka (USFWS), Gary Shepherd (NMFS), Katie Drew (ASMFC), Max Appelman (ASMFC)

**Tagging Subcommittee (TSC) Members:** Stuart Welsh (WVU, Chair), Heather Corbett (NJ, Vice Chair), Angela Giuliano (MD), Beth Versak (MD), Chris Bonzak (VIMS), Edward Hale (DE), Gary Nelson (MA), Ian Park (DE), Jessica Best (NY), Carol Hoffman (NY), Gary Shepherd (NMFS), Josh Newhard (USFWS), Wilson Laney (USFWS), Katie Drew (ASMFC), Max Appelman (ASMFC)

**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
ATLANTIC STRIPED BASS MANAGEMENT**

**The Marriott Norfolk Waterside  
Norfolk, Virginia  
October 19, 2017**

These minutes are draft and subject to approval by the Atlantic Striped Bass Management Board.  
The Board will review the minutes during its next meeting.



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## INDEX OF MOTIONS

1. **Approval of agenda** by consent (Page 1).
2. **Approval of proceedings of May 2017** by consent (Page 1).
3. **Move to approve the 2017 Fishery Management Plan Review and state compliance for Atlantic Striped Bass** (Page 8). Motion by Mike Luisi; second by Pat Keliher. Motion carried (Page 8).
4. **Move to elect Mike Armstrong as Chair of the Atlantic Striped Bass Management Board, and Michelle Duval as Vice-chair** (Page 17). Motion by Ritchie White; second by Russ Allen. Motion carried (Page 17).
5. **Move to adjourn** by consent (Page 18).

**ATTENDANCE**

**Board Members**

Patrick Keliher, ME (AA)	Andrew Shiels, PA, proxy for J. Arway (AA)
G. Ritchie White, NH (GA)	Loren Lustig, PA (GA)
Doug Grout, NH (AA)	John Clark, PA, proxy for D. Saveikis (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Roy Miller, DE (GA)
Raymond Kane, MA (GA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
Mike Armstrong, MA, proxy for D. Pierce (AA)	Ed O'Brien, MD, proxy for Del. Stein (LA)
David Borden, RI (GA)	Mike Luisi, MD, proxy for D. Blazer (AA)
Jay McNamee, RI, proxy for J. Coit (AA)	Rob O'Reilly, VA, proxy for John Bull (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Kyle Schick, VA, proxy for Sen. Stuart (LA)
Matt Gates, CT, proxy for M. Alexander (AA)	Catherine Davenport, VA (GA)
James Gilmore, NY (AA)	Michelle Duval, NC, proxy for B. Davis (AA)
John McMurray, NY, proxy for Sen. Boyle (LA)	David Bush, NC, proxy for Rep. Steinburg (LA)
Russ Allen, NJ, proxy for L. Herrighty (AA)	Derek Orner, NMFS
Tom Fote, NJ (GA)	Sherry White, USFWS
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)	

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

Nicole Lengyel, Technical Committee Chair

**Staff**

Robert Beal  
Toni Kerns

Katie Drew  
Max Appelman

**Guests**

**(NOTE: Sign-In sheet not distributed)**

Robert Newberry, DelMarVa  
Fishermen Assn.

Robert T. Brown, MWA  
Bill Goldsborough, MD

The Atlantic Striped Bass Management Board of the Atlantic States Marine Fisheries Commission convened in the Hampton Roads Ballroom V of the Marriott Waterside Hotel, Norfolk, Virginia, October 19, 2017, and was called to order at 8:00 o'clock a.m. by Chairman James J. Gilmore.

#### **CALL TO ORDER**

CHAIRMAN JAMES J. GILMORE: Good morning, my name is Jim Gilmore; I'm the Administrative Commissioner for New York, and I'll be Chairing the Striped Bass Board meeting this morning. Welcome to everybody on this bright, beautiful day. We actually during the Executive Committee meeting yesterday it said we had instructions on how to run a meeting.

We've got them here, how to do it very efficiently. Actually there is only one thing on it. It says don't let Tom Fote talk. That being said; let's get right into the agenda.

#### **APPROVAL OF AGENDA**

CHAIRMAN GILMORE: First off, first action item is Board Consent; Approval of the Agenda. The agenda should be in your briefing package. Are there any changes to the agenda? Seeing none; we'll take that as unanimous consent.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN GILMORE: Next is our approval of the proceedings from May of 2017. You have reviewed those, any changes to our proceedings from our last meeting? Seeing none; we'll take those with unanimous consent.

#### **PUBLIC COMMENT**

CHAIRMAN GILMORE: Our next agenda item is Public Comment. I've had two individuals that have signed up; actually three individuals that have signed up that want to speak, so I'll take them in order. First we have Bill Goldsborough. These again are for topics not on the agenda today. Please keep your comments brief. Thank you, go ahead, Bill.

MR. WILLIAM GOLDSBOROUGH: Thank you, Mr. Chairman, members of the Committee. My name is Bill Goldsborough. I come here today as

a private citizen; albeit one who spent many years around this table working on striped bass. My interest today is to encourage certain steps that I believe are necessary to continue to grow and strengthen the striped bass population.

In that quest we are fortunate to have some strong year classes in the pipeline from good recruitment in Chesapeake Bay. The 2011 and 2015 year classes are very strong; as you know. We now have word from the 2017 Maryland Young-of-Year Survey that this year's spawn was good as well.

The concern I have is whether these fish will find sufficient forage to reach their full potential. As we are all aware, striped bass depend heavily on Atlantic menhaden as prey. To that point I call your attention to a new paper by Buchheister et al. this year that underscores this dependence by showing a tight correlation between striped bass and menhaden biomass; with both declining with increased menhaden fishing mortality.

As you know, the Menhaden Board will be finalizing Amendment 3 next month. It is my hope that ecological reference points will finally be adopted at that meeting; that will ensure sufficient forage for striped bass and other predators along the coast. But another decision in Amendment 3 may have greater implications for those striped bass year classes currently maturing in Chesapeake Bay. My message to this Board is not to overlook it. I'm referring to the Chesapeake Bay menhaden reduction fishery cap.

While the ecological reference points are crucial for ecological balance coastwide; the only tool we have to buffer the concentration of the fishery in Chesapeake Bay is the reduction cap. While menhaden stock biomass has improved in recent years, most of that biomass is in northern waters; while harvest pressure is concentrated in the Bay region where biomass is relatively low.

There is real potential for striped bass in Chesapeake Bay to be food limited in these coming years; and in fact recently there have been numerous reports from anglers in

Maryland of skinny stripers, with no apparent body fat. Whether this condition is related to the wasting disease mycobacteriosis that sometimes plagues the Bay has not been determined.

But recall that Jacobs et al. 2011 did find that poor diet enhances the progression and severity of mycobacteriosis in Chesapeake Bay striped bass. The bottom line is that the Bay reduction cap for menhaden remains important for striped bass; and it is my hope that this message is carried to the Menhaden Board when it deliberates Amendment 3 next month. Thank you, Mr. Chairman.

CHAIRMAN GILMORE: Thanks Bill, good to see you again. Next we have Captain Bob Newberry.

CAPTAIN BOB NEWBERRY: Mr. Chairman, members of the Committee, my name is Robert Newberry; Chairman of DelMarVa Fisheries. I'm here to discuss today a situation in hand that I believe will be discussed today also is about the problem that we're having in Maryland; specifically in the northern reaches of the Bay, with the amount of discard or the B-2s, and the problem that is arising from that.

It's a very, very troublesome situation. I run a charter service alone and represent many others in the charter business too. We have seen over the past three years, as we have testified here, not me, but Captain Phil Langley, who is head of the Charterboat Association, has testified of his concern over the amount of waste of these fish or these B-2s.

We have put together a group and have addressed this with DNR. I'm not here to point fingers or blame on anybody, because the old saying is if you point your finger at somebody you've got three pointing back at you. I'm just as guilty as everybody else is that is participating in this decimation of these fish.

What concerns me is I would really like to see this Commission, when it's addressed today is to really buckle down and take a good look at this problem; because it's not thousands of fish, we're in the hundreds of thousands of fish that

are being wasted. For the past three years we have had slicks of fish that one we have a film of this year was two miles wide and three miles long; it had washed up on the beaches of Kent Island, massive amount of buzzards were feeding on them.

People were complaining about the amount of buzzards. But it's not the fact that these fish were skinny and small, it's going after the conservation equivalence for this 20 inch fish. I would implore the Commission that when this is addressed to seriously look at it; because the one thing that I've said here before in the past three years, and I'm going to say it again and I just hope it kind of sticks like superglue is that when a natural resource is politicized, there are only two outcomes from that.

It is the demise of that natural resource, and the demise of the industry based upon that resource, and we're seeing that happen right now. The science is there. I think that Maryland should lead the charge on this; which I'm fully sure that they will and working with ASMFC and the other states.

Because if we are going to ensure the longevity of these striped bass, and seeing what I've seen over the past three years as a result of Addendum IV. It is horrific. Once again, I will repeat myself is that politicizing of a natural resource leads to two problems; the demise of that resource and the demise of the industry based around it. Thank you very much.

CHAIRMAN GILMORE: Thank you, Captain Newberry. Last I have Robert Brown.

MR. ROBERT T. BROWN: Thank you Mr. Chairman, for letting me speak. My name is Robert T. Brown; I'm President of the Maryland Watermen's Association. We have a large problem in Maryland with discards, since we have a minimum size of a 20 inch rockfish in the state of Maryland.

This all came about back a few years ago when we got a 25 percent reduction on the coast and a 20.5 percent reduction in the Chesapeake Bay.

To meet the criteria to keep fishing, we went to a 20 inch fish on the sport and charterboats to meet the criteria we had to be fishing legally. When this happened, by raising that size limit of those fish and the amount of fish that we have in the Bay, you have to catch anywhere from 20 to 50 or 80 fish before you can catch one that is of legal size.

Once you hook these fish, especially during the warm waters of the summer, we have a lot of fish that die. These dead discards have been floating all up and down the Bay. They've been floating and going ashore in different places. It's not because they have a lack of feed. It's because we have so many fish in the Bay at this time; and we have two or three more year classes that I'm glad to hear that we have.

But with the abundance of rockfish that are in the Bay is becoming overwhelming. What I would like, hopefully I just want to make everybody aware of this so we can do something to stop this; because it's a waste of the resource when you can't catch it all the time and keep it. You're better off to go out and catch a few fish, catch your quota, go back in. It's better for business than catching all these fish and having these discards. I thank you for your time.

CHAIRMAN GILMORE: Thank you, Mr. Brown. Is there any other public comment before we get into the rest of the agenda?

#### **CONSIDER 2017 FISHERY MANAGEMENT PLAN REVIEW AND STATE COMPLIANCE REPORTS**

CHAIRMAN GILMORE: Okay seeing none; we're going to go right into Item 4, Consider 2017 Fishery Management Plan Review and State Compliance Report; and Max has got a presentation for us. Max.

MR. MAX APPELMAN: This is the 2017 FMP Review for striped bass. The reporting period is the 2016 calendar year. A quick overview of my presentation; touch on the status of the stock and the status of the fishery, move on to status of management measures, and wrap up with compliance and Review Team recommendations.

Based on the results of the 2016 stock assessment update, Atlantic striped bass is not overfished, and overfishing is not occurring. In 2015 spawning stock biomass was estimated at 58,853 metric tons, which is just above the threshold.

Fishing mortality was estimated at 0.16, which is below the threshold and the target; and as we're all likely aware, the benchmark is currently underway. Peer review is expected at the end of 2018.

This is a look at spawning stock biomass over time. This is Figure 1 from the FMP review report. What you can see is an exponential increase almost from the beginning of the time series; then it crosses the threshold at 1995, which is not coincidentally the definition of that threshold is that value. It continues on to a peak around 2003, and since then has been declining. In 2015 you can see it is just slightly above that threshold level.

Moving on to fishing mortality rate over time, a similar trend here in the beginning of the time series as the management plan relaxed regulations, you can see fishing mortality increase to a peak around 2006, 2007; at which point it decreased a little bit but has fluctuated right around 0.2 it's across the threshold, and is currently below the target in 2015.

Moving on to status of the fishery, this is looking at the commercial sector; 2016 was an estimate of 4.8 million pounds. This is very similar to 2015. Both of these fishing seasons were under the Addendum IV quota; so that's not very surprising. Commercial landings and discards by state are detailed in Tables 1, 2, and 3; but just a couple more points here, 60 percent of the harvest did come from the Chesapeake Bay fisheries, and that discard estimate in 2016 is a little over 400,000 pounds, which is higher than it was last year but much lower than the year before that. It is sort of middle of the road. I do have one small correction in the FMP Review report. I incorrectly reported the difference between the 2015 and the 2016 landings numbers; it's a very small number and very small

difference; but just FYI I'll make that change in the final version.

Moving on to the recreational fishery; so 2016 did mark an 18 percent increase in total removals compared to 2015; that's in terms of number of fish. We are talking about harvest and dead discards when we say total removals. The 2016 harvest estimate was a little over 1.5 million fish; which equates to roughly 19.9 million pounds; 46 percent of that came from the Chesapeake Bay fisheries, in terms of number of fish. Our fish released increased by 37 percent; which in that dead discard estimate is 1.04 million fish.

That is the red bars on that figure there. You can see it is pretty high over the recent decade or so; but if you move further into those peak biomass years in the mid '90s to 2008, it is actually on the lower end. Just to put things in perspective.

Take a quick peek at the Albemarle Sound, Roanoke River stock. Based on a stock specific assessment conducted by North Carolina, this AR stock is not overfished and overfishing is not occurring. The 2014 spawning stock biomass estimate is a little over 2 million pounds; which is well over the threshold and the target, 2014 fishing mortality estimate at 0.06, which is similarly well below the threshold and target. Speaking with North Carolina's staff, I was advised to extend caution when evaluating those terminal year stock status estimates for the AR. It is likely an overestimate of SSB, and an underestimate of F considering the retrospective bias exhibited by the AR stock-specific model. The magnitude of those values will likely change as additional years of data are incorporated.

A quick look at the harvest in Albemarle Roanoke stock from that region, commercial harvest was a little over 120,000 pounds. This is a slight increase relative to 2015, and recreational harvest just shy of 80,000 pounds, also a slight increase from 2015.

Moving on to status of management measures; this is a look at the coastal commercial quota. In 2016, Rhode Island had a reduced quota due to

overages in 2015. The total coastal commercial quota was 2.84 million pounds.

This was not exceeded, however there were three state-specific overages; Massachusetts by 68,927 pounds, Rhode Island by 32 pounds, Virginia by 589 pounds, and those overages will be deducted from the current 2017 quota. Moving to the Chesapeake Bay, there were no deductions from 2015, so the commercial quota stands as it is in Addendum IV. The 2016 Bay wide quota was not exceeded. Similarly there were no jurisdiction specific overages.

Now, looking at the juvenile abundance index analysis, Addendum II defines recruitment failure as a value that is lower than 75 percent, or the first quartile, Q1 of all values in a fixed time series appropriate to each JAI. The PRT, which does include some membership overlap with the Technical Committee, reviews this Juvenile Abundance Index from six different surveys; and if any of those surveys do fall below its respective Q1 for three consecutive years, appropriate action is recommended to the Board.

For the 2017 JAI Review, the Review Team evaluated the 2014, 2015, and 2016 values; and there was no management action triggered. This is a very small figure; however, you can see it much better in your review report. What I'm clearly trying to do is direct your attention to two specific values.

The top right corner that's the Maryland JAI in the Chesapeake Bay; and then in the middle on the left is from New York and the Hudson River; those two values in 2016 were below Q1. The previous years in those time series were above average, so again no management action triggered. But if this does continue next year or the year after that might see some red flags.

Status of management measures continues with Addendum III. This is the commercial tagging program. Addendum III requires all states with commercial fisheries to implement a commercial tagging program; and to submit annual monitoring reports no less than 60 days prior to

the start of their first commercial season.

The monitoring report primarily includes a summary of the previous year's tagging program. This includes also tag descriptions for the upcoming season, as well as highlighting any issues with the program. In 2016 all states submitted reports on schedule; and implemented commercial tagging programs consistent with those requirements. You can refer to Table 10 in the report, which summarizes each state's program requirements.

Wrapping up with compliance and recommendations, the Review Team reviewed all the state compliance reports, and determined that each state and jurisdiction implemented regulations consistent with Amendment 6 and Addenda I through IV. There were no de minimis requests at this time. As such, the Review Team recommends the Board accept the 2017 FMP Review and State Compliance reports for Atlantic striped bass. I'll take any questions.

CHAIRMAN GILMORE: Thanks, Max, great report. Questions, John.

MR. JOHN CLARK: Thanks for the report, Max. When you showed that graph of total recreational mortality, it looked like the mortality in 2016 was almost equivalent to the mortality in 2014, the last year before Addendum IV went into effect. The main difference being that most of, well not most of it, but much more of the mortality was due to discards in 2016 than in 2014.

Obviously, as many of us thought from the get go that these reference points were very conservative, and as we've been hearing from the charter fishermen from the Chesapeake for the last couple of years. We're still killing a lot of striped bass; it's just we're not harvesting them. Once again, I think this points toward the discussion we'll be getting into later on the reference points, changing them.

CHAIRMAN GILMORE: John McMurray.

MR. JOHN G. McMURRAY: Max, can you put up

the SSB chart? That does not include 2016.

MR. APPELMAN: Correct. The terminal year in the 2016 update was 2015.

MR. McMURRAY: Thank you. Is there any indication that we're starting to trend upward. The SSB is starting to go back up with 2016? I mean you would think that the 2011s are starting to recruit. You would think some of them would have recruited in 2015, and certainly by now we should be seeing some sort of upward trend. Is there any indication that that is happening?

MR. APPELMAN: In terms of spawning stock biomass, I can't make any interpretations of that for 2016. We haven't put any of that data through the model itself. Clearly there is anecdotal evidence and B2s are higher; indicating some catch of smaller, non-retainable striped bass. I think that's corroborated, but as far as spawning stock biomass that estimate includes a lot of other information; so it's hard to tell what would happen in 2016.

MR. McMURRAY: One more question. Well, you know fishing mortality seems to be going down pretty precipitously; according to the chart. You would think it wouldn't be all B2s; you would have some keeper fish that are starting to recruit. You would assume there would be some upward trend there, even in 2015.

I don't know if that's a cause for concern or not. I would just note that anecdotally, there are a lot of complaints this year that we're not seeing the usual abundance and size of fish that we should be seeing this time of the year. It's just something to note, something we should keep an eye on.

CHAIRMAN GILMORE: Dave Borden.

MR. DAVID V. BORDEN: Just a quick question. On that recreational discard mortality, I think I could probably speak on behalf of everybody. It's such a waste of a resource. I guess my question is to what extent had the PDT, Technical Committee or whatever look at that



issue and try to formulate ways to reduce it? I mean to the extent we can reduce that we can liberalize the catch regulations. Has that been done in the recent past, and if not maybe we could get that done?

MR. APPELMAN: I think those conversations have occurred, not explicitly, but sort of as part of other exercises that the TC has done. I think speaking on behalf of the TC, two members next to me that can chime in if they feel they need to, but it's a tradeoff. If you relaxed regulations you'll keep more, and you'll still have some discards and vice versa. If that helps answer your question.

CHAIRMAN GILMORE: Go ahead, Dave.

MR. BORDEN: I still think it would be a useful exercise to the extent that the Technical Committee could weave that into their assignments; and try to bring back recommendations to the Board. At least we would have something to consider.

CHAIRMAN GILMORE: I guess it's a concern that everybody has with the discard mortality. I think I'm going to talk a little bit about it later. We'll see. I mean obviously we'll have discussions on it, but they're pretty well over tasked right now. Are you suggesting we do something in addition, or that they just in their deliberations when they're talking about the next stock assessment that they discuss it?

MR. BORDEN: Next stock assessment.

CHAIRMAN GILMORE: Okay well, we'll see. Obviously it's a problem that needs to be addressed, so they'll be considering it somewhat. Loren.

MR. LOREN W. LUSTIG: Thanks to Max for an excellent report; very interesting report. I'm specifically concerned as we certainly all are regarding the fishing mortality for these discards. I'm wondering about anecdotal evidence that has been given to me personally, and probably to most of us in the room, concerning two sort of fishing procedures.

One is the use or lack thereof or circle hooks and the second being the inclination or lack thereof for the angler to play out the fish to absolute exhaustion. It's my understanding that those two factors really contribute to mortality. The first part of the question is am I right, and second is how can we work out a plan that would lessen this mortality?

MR. APPELMAN: The fighting aspect of that is not something I'm going to comment on here; but the circle hooks, yes I think some jurisdictions do require circle hooks and they've been shown to reduce your release mortality rate slightly. I'm hearing down to 5 percent, right now 9 percent is used in our models. As far as how long an angler fights their fish. I think that's more of an education outreach type discussion.

CHAIRMAN GILMORE: Yes, I'll just add to it, Loren. I think that you know, if you go back to the individual states the circle hooks are definitely an improvement; although they're not a solution, because you still foul hook with circle hooks. But still, they help out with that mortality, and I think that angling techniques or whatever really some of the states do good outreach and education programs. I think each one of us has to do more of that to kind of reduce the discard mortality. Ritchie White.

MR. G. RITCHIE WHITE: I think the release mortality is affected more by the size of the stock, the year classes, and angler decisions. The charterboats I know if they go out in the morning and the angler catches his legal keeper or keepers say in the first 15 minutes; and they've paid for six hours. They fish the six hours. They're not coming home after ten minutes after getting their legal fish.

I guess I don't see where changing a size so that the anglers can catch the fish from a charterboat standpoint lessens release mortality; unless they are able to go target different species. Then the size of the fish, if you have a lot of fish that are undersize, and especially now in New England we have a lot of fish that are very small. I mean

there is no way you could have any kind of regulations to keep a 16 inch striped bass along the coast. I think it's more complicated than just saying if we adjusted the size a little bit then that would take care of a lot of release mortality.

CHAIRMAN GILMORE: Thanks Ritchie, good point. Mike Luisi.

MR. LUISI: I had intended to discuss with the Board the active role that Maryland is going to be taking to help address this issue. I was planning to bring it up under new business. I don't know if that would still be more appropriate. Given where this conversation is leading though, I would be happy to offer to the Board our review and intentions in the coming months; if you think that's appropriate now.

CHAIRMAN GILMORE: I think I would rather stay until other business, because I would like to get this approved and then you know we get through those reference points we'll do it then, Mike. Tom Fote.

MR. THOMAS P. FOTE: I guess I'll wait until we have that discussion; because I have a few points to make in that direction.

CHAIRMAN GILMORE: Are there any other questions for Max? John McMurray.

MR. McMURRAY: One more quick question. I'm a little confused about this discard mortality conversation; because having spent the better part of two decades on the water targeting striped bass, those smaller fish, those 18 inch fish, sub 20 inch fish are pretty robust. You have to do a lot to kill them.

Unless these guys are fishing with treble hooks and clam bellies, I don't understand how we're having slicks of dead fish in the Chesapeake Bay. My question really is; is the discard mortality in the Chesapeake Bay presumably higher than it is on the coast, or is it flat out 9 percent across the board? Is there any reason to believe that that is not accurate?

MR. APPELMAN: The discard mortality rate is

the same across the board. There is more fish coming, being caught in the Bay relative to the coast, so I think that is why you would see a higher number in the Bay relative to the coast. But the release mortality rate that 9 percent that is applied to all catches that stays the same. It's proportional; it's just how many fish are actually coming out of the water?

MR. GILMORE: Is this to this point, Mike? Go ahead.

MR. LUISI: To the question asked, and I'm not going to argue the 9 percent. Nine percent is what is used across the board in the assessment, and it's what we plot when we talk about B2s and the amount of dead discards that come from those released fish. But there is evidence and work that has been done in Chesapeake Bay that results in mortality as high as 30 percent in some cases, 27, 28, and 29 percent.

It has to do with water temperature. It has to do with hook location and other elements that go into everyday fishing activities. I don't want the Board to think that this 9 percent is something that is across the board. It changes in different parts of the coast. It has a lot to do with the hooks that are used and the baits that are used. Artificial lures certainly don't have the same mortality that live lining and chumming have.

We're seeing that on the Chesapeake Bay. Again, I'm not going to get into details later. I just wanted to brief the Board on what Maryland has been doing to actively pursue this problem. But I wanted to also make sure the Board understood that 9 percent while it's used for the assessment, it is not a standard. There is evidence that it can be higher than that.

MR. APPELMAN: Mr. Chairman, if I could just jump in and respond to Mike; and more info for John. That 9 percent is clearly a topic of interest. The Stock Assessment Subcommittee and Technical Committee will be diving into that thoroughly with this benchmark coming up. I wouldn't be surprised to see that number change, however.

CHAIRMAN GILMORE: Tom Fote.

MR. FOTE: Yes, Maryland did studies years ago, and basically looked at water temperature, looked at air temperature, and looked at a couple other things that basically affect the mortality. Those figures are out there. The study is there. The Technical Committee really doesn't need to do anything.

It was actually the air temperature above 90 degrees, no matter where you're fishing in the Delaware River or any of those warm water, low salinity areas. The hook and release mortality some places could be as high as 40 percent; we looked at back then. That is when Jersey Coast started putting out information that if you're basically fishing hook and release, because we already knew that striped bass because of the behavior of the anglers, is going to be greater.

It was in the early years, greater by hook and release mortality than catch mortality. I mean those figures you can go back and look at them. We were always catching and killing more fish by hook and release than we were by keeping them. It was going to be a natural way that that fishery was played.

Unlike summer flounder which shouldn't be there, striped bass was always there. Now, some of the things that are basically affecting it and it is true, when you basically fight with light tackle and you basically stress a fish out in hot water. It goes up. I recommend to my fly fishermen, you put 20 pound leaders on; you don't use light tackle. If you're out fishing in the Delaware River and the water is above 80 degrees, you should be using 40 pound test; get the fish as carefully as you can to the boat, don't touch it and release it. We put all those things out years ago; because we realized that in hot water up in low salinity situations, the hook and release mortality is going to be greater.

Yes, it has a big factor and it always was going to have a factor. Ritchie is right. When people go out, I mean I sit on the beach and watch guys fish one striped bass after another during the blitz, and nobody is even taking a fish home. But some

of their behavior is not what you should be doing to actively and nicely release fish for the highest percentage of protection.

CHAIRMAN GILMORE: All right we've had good discussion on this. I think as Max had said, this is going to be looked at in the next assessment. We're going to move along, but we're going to need a motion to approve this. Mike Luisi.

MR. LUISI: **I move to approve the 2017 Fishery Management Plan Review and State Compliance for Atlantic Striped Bass.**

CHAIRMAN GILMORE: Thanks Mike, second by Pat Keliher. Discussion on the motion, seeing none; is there any objection to the motion? Seeing none; we'll adopt that as unanimous consent.

#### **RECOMMENDATIONS FOR THE 2018 BENCHMARK STOCK ASSESSMENT**

CHAIRMAN GILMORE: Okay, we're going to go into Item Number 5, Biological Reference Points. The TC is looking for some guidance on this.

We have actually not looked at the reference points since Amendment 6, in 2003. With a new stock assessment the TC has definitely had some issues they would like to bring up. Nicole is going to do a presentation, and then we'll have some discussion on maybe which option we can go with; so Nicole.

#### **TECHNICAL COMMITTEE REPORT**

MS. NICOLE LENGYEL: Today I will be presenting a TC report where the TC and the Stock Assessment Subcommittee are requesting Board guidance on Atlantic striped bass FMP goals and objectives. I am going to start by going through some background; including the 2018 benchmark assessment, the current biological reference points used in the current assessment, FMP objectives and acceptable risk; and then get into the Board guidance that we're seeking.

The 2018 benchmark assessment is currently underway. In fact we just had our first data workshop in September. TOR Number 5 is to

update or redefine biological reference points, including BRPs, point estimates or proxies for BMSY, SSB<sub>msy</sub>, FMSY, or MSY. Define stock status based on BRPs by stock component where possible.

The current SSB threshold, as Max pointed out earlier, is the estimate of SSB in 1995, and the target is 125 percent of that value. You can see from the figure that while we are well below the target, we are hovering right around the threshold. The current F target and threshold are those that will maintain the populations at the SSB target and threshold.

Again, you can see from the figure that F is well below both the target and threshold, as of the 2016 assessment. There is a tradeoff between preserving spawning stock biomass and allowing fishing. As we just heard, the Board has raised concern that the current biological reference points may be too conservative; for various biological, ecological, and socioeconomic reasons, and may be restricting fishing unnecessarily. The current management objectives and acceptable risk levels were laid out in Amendment 6 to the striped bass FMP back in 2003. The TC and SAS posed to the Board several questions. Is the Board satisfied with the current management objectives, and acceptable risk levels, as laid out in Amendment 6? Does the Board want to manage the stock to maximize yield, maximize catch rates, maximize the availability of trophy fish, and what is the acceptable level of risk when it comes to preventing stock collapse?

The TC and SAS recognize that this is not a simple task; and we're not recommending that the Board decide these items today. Instead we're recommending that the Board consider one of the following; a formal workshop, such as the Ecosystem Management Objectives Workshop that was done recently for Atlantic menhaden, developing a subcommittee of the Board.

Develop and issue a survey for the Board to seek preferred direction for management, and preferred balance between spawning stock biomass and F. The TC and SAS could also

conduct a full management strategy management evaluation; however, it would not be completed until after the benchmark is complete and peer reviewed. With that I can take any questions.

#### **PROVIDE GUIDANCE ON REFERENCE POINTS**

CHAIRMAN GILMORE: Thanks, Nicole, we'll take questions for Nicole first. Remember when you ask them, and you start thinking about which one of these options we would like to pursue if it's the Board's pleasure. When you make those comments remember, you might be volunteering to sit on one of those things. Michelle.

DR. MICHELLE DUVAL: not volunteering anything, but just a question. Maybe this isn't strictly for Nicole, but perhaps for Toni and Bob as well. I know that one of the items that we discussed last year and I believe the Policy Board is going to get an update on this from the Risk and Uncertainty Policy Working Group.

The Risk and Uncertainty Policy Working Group, if I recall, was looking at sort of striped bass as kind of their case study for trying to apply the draft approach; and had spoken of possibly having a Commissioner workshop to walk through that. With these two, and looking at the option for a workshop here to revisit management objectives, would those two workshops dovetail? Has there been any discussion about that? I assume it's probably less a question for Nicole and more a question for Bob or Toni.

CHAIRMAN GILMORE: Go Bob.

EXECUTIVE DIRECTOR ROBERT E. BEAL: The plan right now with risk and uncertainty is to have a workshop at the February meeting. We were going to do some of that today; but we got into a time crunch. We figured it would be better to put it off until February, and we could really spend some time and focus on it; spend a couple hours at a Commissioner workshop.

Jason McNamee is kind of the guru of this right now; or at least the messenger. You know

striped bass is the example, and we may be able to tie some of those together. But I don't know if the risk and uncertainty policy is going to be mature enough necessarily; to produce outcomes that can be plugged into these striped bass questions. But I think it can shed some light on it, but I don't know. There may be some additional work that still needs to be done specific to striped bass.

CHAIRMAN GILMORE: Katie, go ahead.

DR. KATIE DREW: Just to add to that. The current risk and uncertainty policy is really sort of a component of a larger policy; and we're working on a specific subcomponent of that which is how you evaluate the risk level for reducing F to a target, for example. That sort of assumes that we already have a target and a threshold that we're happy with.

That is what we're going to work on in February. But I think it's going to open the door for a discussion about how do you set that target and threshold at a level that you're happy with; before you go through this risk tree. I think this could be, they won't be fully complementary, but I think they could open the discussion in a way that might help the Striped Bass Working Group understand what we're talking about, and give them better ideas about what we would want for a reference point discussion from that.

CHAIRMAN GILMORE: Other questions for Nicole? John.

MR. CLARK: At this point you're just looking for not suggestions on the reference points, just how the process of how we would get to considering new reference points; like the suggestion just made by Michelle or a working group or whatever. Is that where we're at here?

CHAIRMAN GILMORE: Yes, John. Essentially we need to have a working group, or we would have a subcommittee of the Board to work on it, or the last option again which I don't think is very popular because it is going to delay things, you know quite a bit. It's really those three options we need to look at. Jason.

MR. JASON McNAMEE: I just wanted to offer maybe a word of caution; and then I'll actually give a recommendation on some of the questions the Technical Committee asked, if that's okay. First, when I was reading through the Technical Committee report, I think the presentation kind of addressed some of my concerns.

But I'll voice them anyways. I don't want people to walk away from this with the impression that we can set these biological reference points solely based on Board objectives, and things like that. That is an element of what should be considered, but we don't want to presume that we might not be able to develop actual MSY biological reference points or things like that.

We need to be careful and not think about them as dials that we can turn up and down to whatever degree we desire. There are population dynamics to consider within that calculus. On the actual questions, all of the options that were presented I think are good options. I will say the workshop that we did for Atlantic menhaden worked out really well.

We found that to be productive. While we haven't necessarily operationalized those objectives and goals, we have used them on occasion in some of our deliberations; whether we know it or not. I think it set the stage for menhaden to do some further work; specifically something like an MSE and that will be my last quick comment.

I think moving towards management strategy evaluation is something we ought to do. We should be thinking about it, but we should do it thoughtfully; and I would suggest that as a Commission across species, we should be thoughtful about which. We should start with an example. There has not been a lot of this done. In our area I think Atlantic herring is the only example that I'm aware of for the Mid-Atlantic/New England Regions. We want to be thoughtful about that. We want to pick an example that we can work through. It's a great idea for striped bass. But we should think about it a little more comprehensively before we pop

doing an MSE on any specific species.

CHAIRMAN GILMORE: Good point, Jay. Doug Grout.

MR. DOUGLAS E. GROUT: My experience with MSE with herring, it has some potential. Although there is a lot of analytical work that the Technical Committee has to do to provide these different, once we come up with ideas, to provide the analysis for this. Obviously as the Technical Committee indicated, MSE would be something that would have to be taken up after the stock assessment; if we were going to go that way.

That being said, I think to get the Board discussing this. You know potentially a workshop leading to a subcommittee that would take the results of the workshop; and try and work on it. But at the same time, again we may need some analysis of what kind of harvest would we be looking at, with a yield being maximized versus maximizing trophy fish.

What is the difference? To be honest with you, we've kind of been down this road. I think we all know that we have different parts of the coast requiring or asking for different management objectives on this. That's going to be the tough part for us; to work out some kind of a compromise that would work for everybody. At least in the short term I'm suggesting a workshop, moving into a subcommittee work.

CHAIRMAN GILMORE: Ritchie White.

MR. WHITE: I think all three. I think you start with a workshop, you take the results of that and go to a subcommittee of the Board. Then I think that then ends up sending a survey out to the whole Commission; so that you have more feedback to it. I think an important piece, especially for the subcommittee of the Board, is to have the different reference points worked out roughly, described, and then given the present stock how that might be interpreted into regulations so that people can more fully understand the impacts of the three different options.

CHAIRMAN GILMORE: Mike Luisi.

MR. LUISI: I'm happy to hear that these reference points are something that is being raised to this level of importance. I've always been one that has thought that the current targets that are set for spawning stock biomass, or set to a point where they're unachievable. They may be achievable, but we're unable to maintain them.

It sets a false expectation for fishermen along the coast, so I'm happy to hear that this is being considered at the level that it is. I also agree with Doug and Ritchie that a workshop followed by a subcommittee of the Board is probably the best plan forward in helping to advise the TC and SAS on this. Unlike my counterpart from North Carolina, I will certainly offer my services to the subcommittee if you choose so, Mr. Chairman.

CHAIRMAN GILMORE: Sounds like a throw down, Michelle. I'll get you in a second. I've got Pat Keliher first.

MR. PATRICK C. KELIHER: I certainly don't have any problem with what is being recommended here. There have been a couple comments about MSE management strategies, and I would caution the Board regarding the complexity of management strategies. Amendment 8 for herring at the New England Council has been a very long process.

My initial read is it's not showing any appreciable benefits to the predator component associated with those ecosystem-based approaches. Before we start down that road, I think we should all understand better what that would entail; and the process and the length of the process it would entail.

CHAIRMAN GILMORE: Michelle, and it's good to see you so warm; because last year at this time I could see a little face at the end of the table, huddled in wool. Go ahead.

DR. DUVAL: Not to be outdone by my colleague from Maryland, I would of course be happy to participate in any subcommittee that was

developed to ensure a full representation of the range of Atlantic striped bass, thank you.

CHAIRMAN GILMORE: Thank you. John McMurray.

MR. McMURRAY: I'm fine with all of these things, with proceeding down this track. But if we do decide to revise the goals and objectives that were established in Amendment 6, and put an emphasis on yield at the expense of opportunity. I'm pretty sure that needs to be at least an addendum, possibly an amendment. I know that's how we do things at the Council when we want to revise the goals and objectives.

We certainly don't have the time for that as far as providing input to the stock assessment folks. My concern really here is that the public get a chance to weigh in on this; because I could tell you with some certainty that the New York recreational fishing public is not going to be okay with taking on more risk. We really do need to consider the public when we do this.

CHAIRMAN GILMORE: The meetings will be open to the public, so as you go through this process they will have input through the process for that. Mike Armstrong.

MR. MICHAEL ARMSTRONG: I'm actually thrilled that the TC is pushing this. In my mind this Board has never explicitly stated what they want this fishery to look like. You know it can be commercial, it can be recreational, but those are very different. I think a lot of the angst that this Board goes through is because there is commercial fighting recreational and Bay fighting coast.

We all have different interest and I think we need to go through a process to explicitly say what we want it to look like. I also think we're in a very good spot. We have a few good years locked and loaded. We have an F of 0.16. I don't see the critical need of banging out an assessment. If MSE is the way to get us in a place where everyone can manage things better, then I would be happy delaying the assessment; or at least getting the peer review or something like

that. But I'm not an expert on MSE. I defer to others. If that was the best way to do this, I mean I see a survey of the Board as that's just a bunch of opinions. I would love to see some quantitative things put on it, and a whole bunch of different looks evaluated. But this was supposed to be questions for Nicole. The MSE process would be about how long? Long.

DR. DREW: Yes. Not an insignificant. See, essentially what the MSE process is doing is a sort of assimilation of running the assessment model in parallel with different economic or yield objectives. To be able to evaluate under this set of reference points, this is what the fishery would look like. This is what the stock would look like. This is the kind of yield. This is the kind of risk level you would see.

It's a fairly complex process; and would require building additional model on top of the stock assessment model. There is probably a middle ground, in terms of doing a full blown management strategy evaluation versus having the TC evaluate a few key reference points to say, we want to look at the yield and the biological status for maybe three or four different objectives, and evaluating some of that.

There may be time after the assessment for a more full back and forth with the TC; in terms of you guys saying, we like this, we don't like this, can we see this option. But going forward with the assessment, we don't want to do that as part of the assessment. We would like to have some firmer guidance from the Board in terms of how to set up one or two reference points that you guys might want to look at; as opposed to the full range of options that are out there.

CHAIRMAN GILMORE: Rob O'Reilly. Mike, can you hit your microphone.

MR. O'REILLY: I'll talk about Mike from here. Not to disagree, but if we go back to the underpinnings of Amendment 6, exactly what one of the central themes was, was what do you want this fishery to look like? If you remember, there was an extension in that process; because

one thing everyone wanted to do was have a uniform size limit throughout the coast and the Bay, at 24 inches.

Then it was discovered, oops, the allocation that originally was established for Amendment 5, which was 51 percent Chesapeake Bay Area, 49 percent elsewhere was disrupted markedly. That was just a glitch. But beyond that glitch there was a lot of talk about what should this fishery look like; which is a great thing to ask of all our fisheries. I certainly support Mike in saying it's a great thing. Concerning the MSE, I tend to think Pat is right.

Depending on how it's done could make a difference, as Dr. Drew has stated. You know there is a lot going on now with risk assessments leading to a management strategy evaluation. I know I've looked into this to some extent; and it can be really overwhelming. You know we should probably think about that a little bit. I think the practical approach that Dr. Drew mentioned, to sort of get some guidance. That is really what we should look for; rather than hang our hats on the outcome of an MSE.

CHAIRMAN GILMORE: Roy Miller.

MR. ROY W. MILLER: I appreciate all the suggestions I've heard this morning. It isn't clear to me what the timing of this would be. In other words, if we undertake this workshop, what is the intended timing relative to the benchmark stock assessment? Once I get an answer to that just let me add that we've been wrestling with striped bass for a long time. Getting our hands around what everyone wants proved to be challenging back in the 1990s, and it continues to be a challenge; and just point out a little historical perspective on that. It's difficult to get everyone to agree on what they want for the status of the striped bass stock.

CHAIRMAN GILMORE: It's a good question, Roy. Go ahead, Max.

MR. APPELMAN: Thanks for that question, Roy. Talking with my colleagues on timing, obviously the benchmark is underway. The earlier the

team can get that guidance the better. Considering December/January is tough to convene a workshop, and that seems like the route that this Board wants to take.

I was hoping maybe a webinar would be possible for a first stab at a workshop; and then maybe in February we can get a more localized number of members for a subcommittee, and then moving forward with that trying to have final guidance from that subcommittee as early as August or May. I think that's the ballpark timeline we're hoping for here. Again, the peer review is at the end of 2018. Obviously the Stock Assessment Team is going to be exploring some models between now and May; and then at that time we would need some strict guidance.

CHAIRMAN GILMORE: Go ahead, Roy.

MR. MILLER: It sounds, if I may summarize, it sounds like these two tasks will be occurring simultaneously. In other words this workshop will be convening while the benchmark stock assessment is underway. Am I correct in that?

CHAIRMAN GILMORE: Yes. Ritchie.

MR. WHITE: A comment and then a question. Since I believe I heard Michelle volunteer to be Chair of the subcommittee, and since she did that I'll be willing to serve on the subcommittee as well. The question is will it take an addendum or an amendment to change the reference points?

CHAIRMAN GILMORE: Go ahead, Bob.

EXECUTIVE DIRECTOR BEAL: It's sort of at the pleasure of the Board. The Amendment 6 allows reference points to be changed through an addendum; but changing reference points and evaluating or asking the public, what do you want this fishery to look like, and those sorts of things, are pretty big questions.

The Board may want to consider a more lengthy amendment process and do some scoping hearings; and then a final round of hearings. It's really up to the Board as to how much public



involvement, and how many times they want to go out to the public and talk to them about these range of options.

Just this conversation is very similar to what happened in 2002, when Amendment 6 was developed. We were going around, trying to figure out what you want the fishery to look like. There is competing needs and tradeoffs, and there was a working group formed. Pat Keliher was actually on it as the AP Chair at the time; so he's changed jobs and doing different things. I think he's the only one that's left around here that was on that. But ultimately the Board ended up going out to public hearing with an F rate threshold that was set, as Jason mentioned on the biological parameters of these animals. Then the targets at the time was 0.2, 0.25, and 0.3 those three options were taken out to the public and a series of figures that went along with each of those options that showed what your yield would be, what eight and older fish would look like and different things.

You know it was a very direct question to the public in 2002. What do you want this fishery to look like, and here are the tradeoffs? It was at that time illustrated really well. I think it seems like we're heading down a similar path where we're going to have some level of development of those different options and tradeoffs at the Board level. Then as John was saying, go out to the public and say all right, here's your tradeoffs, what do you want?

CHAIRMAN GILMORE: Okay, I guess we'll figure that out as we move along. Is there any objection to Michelle Chairing the – I'm only kidding. I've got Jay McNamee.

MR. McNAMEE: I got a little excited with all the MSE talk, so I'll rein that in a little bit so you can keep this meeting moving along; but just maybe a comment. I'm not sure if the formal workshop is still on the table as well, and I just want to remind people the construct of that. That workshop, it was pretty diverse.

They looked outside; it was outside of the Board. They brought in folks from the industry, bait and

reduction, and folks from NGOs and things like that. Keep that in mind. That's how you get that really good comprehensive feedback in those workshops is to think outside of the kind of narrow universe of what your normal working committees are.

CHAIRMAN GILMORE: Tom Fote.

MR. FOTE: I'm willing to serve on Michelle's committee also. If you get ten striped bass fishermen in the room, and you get ten climate change people in the room, and you would find in the climate change maybe get 48 to 52 percent is in agreement. In the striped bass you would get 10 percent, because nobody could agree with each other. That's usually when you get ten striped bass fishermen, when you come to rules and regulations.

Yes, I would be willing to participate in a workshop. But the other thing, Rob reminded me, thank you, Rob for reminding me. Back in the '90s when we did this, we assumed that Chesapeake Bay was doing 85 or 75 percent of the contribution to the coastal migratory stocks. Well as the years progressed, and that's when Delaware really still had a lot of problems left. It was not a big stock of striped bass being reproduced in the Delaware River.

That has changed over the years. Some years the Hudson River and the Delaware River make a bigger contribution than the 5, or 10, or 15 percent that we assumed years ago. It is estimated maybe up to 30 percent or 40 percent. I've been calling for a workshop on that for many years, to find out what is the actual contribution of the Chesapeake Bay?

What is the actual contribution of the Delaware River, and what is the actual contribution of the Hudson River? It would help us better manage the stocks to basically do that and fairly manage the stocks. I'm looking for that workshop. I've been waiting for it for about, I guess since the Delaware River recovered; hopefully that we would put on our agenda too.

CHAIRMAN GILMORE: John Clark.

MR. CLARK: This sounds like a lengthy process. We have already been under the Addendum IV reference points now for three years. You've heard from the fishermen in the Chesapeake, and from the Chesapeake states the problems that this addendum has caused in the Chesapeake; and as Tom was pointing out, we're having similar problems in the Delaware.

I would just like to know if there is any way that we could speed this process up; because I think that when we took a 25 percent cut on a stock that was not overfished and overfishing was not occurring that was a big cut. At this point there is going to be no relief to the states in the producer areas until what, 2020 at this rate?

CHAIRMAN GILMORE: I think John at this point maybe; yes I have that concern too. But I think the workshop; you know we get that going. Max had said and maybe we get better timeframes after we get that done. Now it sounds like we were looking for one of three options. Now we might be doing all three. But let's get through the workshop I think, and then we'll figure that out after that point. Adam, did you have your hand up?

MR. ADAM NOWALSKY: Yes, I did, thank you. Building on that lengthy process comment, in the TC's memo they requested guidance by the May Board meeting. Can we accomplish that with these tasks? I think would be my first question. Then the second question I had for the TC in this document. I found it noteworthy that in the same paragraph where they outlined their requested timeline, they highlighted the acceptable level of risk when it comes to preventing stock collapse.

Now most of the work that we do when we look at our reference points is to prevent overfishing; which is in large part a function of a management decision, a desired target biomass trying to achieve. But that element of acceptable level of risk, when it comes to preventing stock collapse, I'm not sure we really have any level of risk for allowing stock collapse.

We have level of risk for achieving targets or

thresholds. But I would love some clarity on what guidance we would provide there, preventing stock collapse. I was really struck by that. I wasn't expecting to see that in the document. Those two questions, one is the May Board meeting a critical timeline; and this element of acceptable level of risk of stock collapse versus just achieving some target or threshold.

DR. DREW: In terms of the timeline, May would be ideal for us in order to really fully, in order to get that guidance as soon as possible. But we do recognize that this is an incredibly complex issue; and there are a lot of moving parts and stakeholder considerations that have to go into it. If you guys provided us some guidance by August that would still allow us, we're planning on having a second assessment workshop at that point, and that would allow us to fold in those objectives at that point.

I think we outlined this timeline, so that we could develop reference points that could go to peer review; and be available for management use as soon as that peer review is complete at the end of the year. When we're putting this workshop together, or when you guys are participating in this, we may have to come to recognize that there may be no solution that makes everybody happy. But if you could provide us with some rough guidance to keep things moving forward that would be great. I think in terms of the timeline, August would still work for us if we need to get some kind of rough guidance at that point. In terms of the stock collapse question, I think you're right in the sense that we try to manage two targets and things like that. But I think there is an implicit, when you're setting those targets and thresholds, there is an implicit question of how risky do we want to be?

I think that has come up, certainly at the Board level, of talking about okay we've set this threshold for SSB at the 1995 level, where the stock was in great shape. That implies a minimal risk if you go below that of anything negative happening to the stock. But the question then becomes, if we relax that if we become less conservative, if we allow a lower threshold to

allow more fishing pressure.

Then when you go below that threshold you're in a riskier position. I think it's not just a matter of saying okay we're going to lower the biomass threshold; so we can allow more fishing pressure. You have to recognize that that comes with risks, and the Board should tell us what level of risk are you comfortable with; in terms of setting that threshold and setting those targets, so that you can balance the tradeoffs between how much fishing pressure you allow and how much spawning stock biomass you preserve; in order to buffer that potential risk.

When you drop below the threshold when the threshold is high that is a less risky action or a less risky occurrence than when you drop below the threshold when the threshold is low. We would like guidance on the Board, in terms of some of those questions; because there are obviously different levels that you could set that SSB target and threshold at, depending on what your management objectives are, and what your level of risk you are comfortable with. There is an assessment of risk implicit in all of these questions. We just want to make that explicit.

CHAIRMAN GILMORE: Okay David, you have cleanup. See I didn't make any baseball references today until now.

MR. DAVID E. BUSH, JR.: I'll try to avoid that one for the moment. Determining the management strategy or philosophy that best represents the stakeholders, is obviously something that is the heart of what we need to do. It's what we do to come here to set at the table. We have reference points; we need to stay between them. In doing so, what works for the people that will be out there?

It's going to be different up and down the coast. There are going to be different groups and what not. But understanding how difficult this is going to be. It's going to take time. I guess my question would be, as mentioned earlier in one of the earlier presentations. To change things would just simply be tradeoffs at this point. Those tradeoffs in my mind would be throwing

dead fish over the boat versus keeping them and maybe building a little more confidence in the process.

Are there any recommendations that might work in the interim that we are capable of instituting in the short term; that might achieve those goals? You know again, turning some discards into landings, building a little confidence in the process, and buying us some time until we get some of this very difficult stuff hammered out.

CHAIRMAN GILMORE: I don't believe, David, there is anything we can do short term. I think it's a problem we all are concerned about. But I think this is probably going to be the quickest way to get to it. I think the pleasure of the Board sounds like we want to go ahead with a workshop first. I think that would eventually get into some subcommittee.

I think the working group when we charged that; I'm sorry, the workshop today. That they will refine a timeline and we'll see how well we can do in terms of aligning with the stock assessment. Unless I hear any objection to that I think we'll proceed with that. We'll start with the workshop. I don't think we need a motion for this. We can just decide to do it. But Toni is raising her hand, so go ahead, Toni. Okay, Bob.

EXECUTIVE DIRECTOR BEAL: A quick question. Is the idea that the workshop would be during one of our quarterly meetings? It's a budget question.

CHAIRMAN GILMORE: Yes, Max and I were just talking about it. I kind of like the idea of maybe doing some kind of a call first to kind of frame that out. We can talk about the budget at that point to see how involved it's going to be. Is everybody okay with that approach? Okay seeing none; we'll proceed that way. We'll start with getting a workshop together and we'll see how it goes.

#### **ELECT BOARD CHAIR AND VICE-CHAIR**

CHAIRMAN GILMORE: Okay, the next item on the agenda, we actually have a unique thing. We have to elect both a Board Chair and a Vice-

Chair, because well Russ Allen is actually, if you haven't heard, is going to be retiring; and you know he volunteered to be Vice-Chairman. At any rate we need to get both a Chair and a Vice-Chair, so do I have any nominations, first for Chairman? Ritchie White.

MR. WHITE: This clearly is a great honor having to nominate two instead of one. **The slate that I nominate will be Mike Armstrong for Chair, and Michelle Duval as Vice-Chair.** She certainly is stepping up to the plate recently.

CHAIRMAN GILMORE: Are there second to that motion? Russ Allen seconding that motion, very good. Are there any objections to those two nominations? Seeing none; the unanimous consent, congratulations to our new Chairman, Mike Armstrong, and our new Vice-Chair woman, Michelle Duval.

**OTHER BUSINESS  
MORTALITY DISCARD**

CHAIRMAN GILMORE: Okay, we're up to other business; and Mike, you wanted to bring up the topic on that mortality discard, so go ahead.

MR. LUISI: I'll be very brief. I wasn't anticipating the discussion that we had earlier, which I was happy to have. I'm glad that a number of the Board members here, we all should be very concerned over dead discards; it's a wasteful product of the work that we do. It's been brought to our attention not only through the science and through MRIP. But it's being brought to our attention every day by folks in the field; those fishermen who are experiencing this and seeing this first hand.

I just wanted to bring the matter up here today, and to inform the Board of the active role that Maryland is planning to participate in to help remedy the situation in the Chesapeake Bay. Now that Mike is the new Chair, I'll take the opportunity to disagree with you that there is not an interim process that we can go forward with. We can't wait any more. We can't wait until 2020 or 2021; however long this process is going to take for there to be some change to

what we feel is a very serious problem, a very serious trend in dead discards and waste in this fishery. We are going to take an active role; I've mentioned that. We've reviewed the Commission's guidance on conservation equivalency, and it is our intention at this time to work internally and with our stakeholders to put forth a conservation equivalency program for the 2018 summer/fall season for next year. In review of that guidance, what we are hoping for, Mr. Chairman, is that we could work through Mike in the coming months, and through staff to have TC review prior to the end of this year.

We would really hope that we could get on the agenda for the February meeting; to address that proposal, and discuss how we could begin at least in the interim between now and the benchmark process, look at trying to solve or at least correct the problem of turning dead discards into harvest. If anyone has any questions, I'm not going to get into any details at this time. I just wanted to make the Board aware of our intentions moving forward. We hope that we'll be able to have this opportunity in February to discuss the proposal.

CHAIRMAN GILMORE: Tom, do you have a quick comment?

MR. FOTE: When we did this in '94, '92, when we started opening the fishery up. There was a lot of education of how to hook and release fish; both bluefish and striped bass. Well that's a long time ago. We have a lot of new anglers in, plus back then we could communicate through newspapers, magazines and articles.

Well, nowadays we've got to do it in blogs, YouTube, and there are a whole bunch of other methods. What we really need to do is reach out, make some new videos that we can post online; to basically how to actively hook and release bluefish, striped bass, and many other species. Like the effort New Jersey tried to do with summer flounder.

We're hopefully going to continue that with other species over the years. I think it's about time Commissioners start looking at that. We

had these workshops back in the '90s. I think Pat Keliher attended before he got involved in fisheries management attending those workshops, and how we could get this to their anglers and their customers. We need to start doing that.

But we also need to look at other means of communication; because the newspapers are no longer there. They don't write those articles anymore like they used to; and the magazines are a dying breed, so we have to really look at other forms of communication the way the young people do it.

CHAIRMAN GILMORE: Okay Ritchie White, you get the last comment.

MR. WHITE: Thank you, I'll try to be brief. I would just recommend to the Technical Committee in this process that they do all they can to help Maryland try to achieve what they're trying to accomplish. If Maryland comes forward with a proposal that doesn't quite meet muster that the Technical Committee will try to give alternatives and advice as to how Maryland could reach what they're trying to accomplish.

I'm not sure whether that's normal in the Technical Committee, if the Technical Committee just declines and then asks the state to reapply; or whether they do give alternatives. But I just think that that is important that we try to do all we can that we don't go down the road that we've just recently been down.

CHAIRMAN GILMORE: Okay, just a last item we have before we adjourn is I have to do my swan song speech; because this is my last meeting as Chairman. It's been an honor and a pleasure serving for the last two years. I think we're leaving ourselves in good hands with Mike and Michelle.

I just wanted to say for all you folks that have never sat up here; we really don't know what we're doing. It's really the staff that keeps us well balanced. My congratulations to particularly Max, Nicole, and Katie, they just do an outstanding job, as with the staff. Remember,

Max, he's only been here a couple of years.

I mean so we got some new folks along with Megan or whatever. These guys are the best of the best of what we have here. I appreciate them, and I would give them a round of applause; unless there is any other business to come before the Board, sorry, Toni.

#### ADJOURNMENT

CHAIRMAN GILMORE: Okay we are adjourned and Toni's got the microphone.

(Whereupon the meeting adjourned at 9:22 o'clock p.m. on October 19, 2017)



*Larry Hogan, Governor*  
*Boyd Rutherford, Lt. Governor*  
*Mark Belton, Secretary*  
*Joanne Throwe, Deputy Secretary*

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Maryland Proposal for Review by the Atlantic States Marine Fisheries Commission Atlantic Striped Bass Technical Committee: Alternate size limit and season options for the 2018 Chesapeake Bay Summer/Fall Season

December 2017

Background

Under the Management Program Equivalency section (4.6.2) of Amendment 6 to the Interstate Fishery Management Plan for Atlantic Striped Bass, the state of Maryland is requesting to implement a management program that is conservationally equivalent to the management program required under Addendum IV to Amendment 6 of the Atlantic Striped Bass fishery management plan. Addendum IV was implemented in 2015 and called for a 25% reduction in total removals for the coastal fisheries and a 20.5% reduction in total removals in Chesapeake Bay in order to reduce fishing mortality (F) to the target and to protect the 2011 year class. These actions resulted in new summer/fall regulations in Chesapeake Bay for the 2015-2017 fishing seasons with a 20" minimum size limit for recreational anglers.

Proposal

Maryland is proposing alternate size limit and season combinations with the primary goal of reducing dead discards. The proposed options increase harvest but are estimated to have zero or minimal impact on total removals. Maryland is most interested in seeking approval of the methodology used to calculate the impacts of conservation equivalent options and is seeking approval for employing a discard mortality rate that is higher than 9% in the warmest months of the year when a variety of hook types are used. Maryland is also seeking feedback on results of an analysis using a discard mortality of less than 9% due to the possible inclusion of a mandatory circle hook provision for recreational bait fishing.

Rationale for an Alternative Management Program in Maryland

*Stakeholder Concerns and Supporting Data*

Since new regulations were enacted in 2015, the Maryland Department of Natural Resources and the Atlantic Striped Bass Management Board have heard concerns from Maryland anglers, particularly the charter boat industry, about the consequences of these actions. The first concern was the increase in discards (Figure 1). The number of live releases was lowest from 2008-2011, increased through 2014, and then sharply increased in 2015 and 2016, most likely in response to raising the minimum size 2". Charter captains reported having to discard many more fish in order to catch their limit, often citing ten or more fish discarded for every one that was of legal size. This high level of discards was corroborated through the charter logbooks captains are required to submit (Figure 2). From 2013-2014 under an 18" minimum size limit, 2.7 fish were discarded on average per one fish harvested, while the individual trip ratios ranged from 0-250. In comparison, the mean ratio of discards to harvest was 4.3 fish from 2015-2016, and values ranged from 0-232 fish discarded per fish harvested. Though the distribution is very skewed, there are a fair number of trips reporting more than ten fish discarded for every fish harvested with many reporting 20-50 fish discarded for every fish harvested. Charter captains reported that this high level of discards was effecting them economically, making it difficult for them to attract customers due to reduced fishing success. This has resulted in reduced revenue for the charter industry and the risk of them losing business (February 2017 and May 2017 ASMFC Striped Bass Management Board Meeting Minutes).

The second concern of stakeholders is the discard mortality rate. Anglers estimate that the mortality rate, particularly in the summer months, is much higher than the 9% value used in the striped bass stock assessment. Reports from charter boat captains estimate that approximately 30% of the fish they throw back will not survive. Strong perception of a significant increase in the number of dead discards as a result of management actions has also led to criticism of management agencies by recreational anglers. The intent of this proposal is to reduce waste without increasing total removals by shifting fish from the dead discard to harvest category.

#### How the Proposed Measures Meet Management Objectives

The objectives of Addendum IV are to bring fishing mortality back to the target and protect the 2011 year class. Based on the 2016 stock assessment update,  $F$  was slightly below the target. Additionally, the 2011 year class will be 7 years old in 2018. This means that the majority of these fish will be part of the migratory population and mostly unsusceptible to the Maryland Chesapeake Bay summer/fall fishery.

Considering that the objectives of Addendum IV are achieved, the striped bass stock is neither overfished nor is overfishing occurring, and stakeholder concerns, Maryland is proposing new regulations for the 2018 summer/fall fishing season in order to reduce dead discards while keeping the change in total removals at or near zero. While most of the striped bass of the 2011 year class are now above the minimum size limits, these regulations are important to put in place in order to minimize the number of dead discards of following year classes and in particular, the incoming strong 2015 year class.

#### Proposed Method

##### *Discard Mortality Rate*

The 9% discard mortality rate used in the striped bass stock assessment is from a paper by Diodati and Richards (1996). It was conducted in Massachusetts waters (31 ppt) to analyze the hooking mortality rate on sublegal fish (27-57 cm). Anglers were limited to using unbaited lures with treble hooks, single hook rubber jigs, or baited single hooks. Their logistic regression model included hook type (treble hooks vs. single hooks), depth of hook penetration, and angler experience as significant factors in predicting discard mortality. While the stock assessment uses the overall discard mortality estimate of 9%, discard mortality did vary depending on conditions. Under the best conditions, discard mortality was estimated at 3%. Under intermediate conditions, discard mortality was estimated at 9%, and under the worst set of conditions, discard mortality was estimated at 26%.

Within Chesapeake Bay, Lukacovic and Uphoff (2007) collected data on hooking mortality using natural cut bait on J-hooks and circle hooks. While water temperatures observed during the study period were similar to those in Diodati and Richards (1996; 15-28°C), salinities were lower in Chesapeake Bay (1.6-17.8 ppt). In this study, the significant factors in the logistic regression for discard mortality included fish length, hook location, and air temperature. In their study, the highest mortality rates tended to occur in June and July when the air temperature was highest. Under the best conditions, the median release mortality was 3%. Under intermediate conditions, the median release mortality was 6%, and under the worst conditions, the median release mortality was 27%. These values were very similar to those estimated by Diodati and Richards (1996) and both studies suggest that under the worst conditions, mortality rates could be as high as 26-27%. These upper estimates also corroborate the estimated discard mortality reported by Maryland charter boat captains.

The Chesapeake Bay studies, however, all examine the use of artificial lures (with treble hooks) or natural baits (on single hooks including J- and circle hooks). While chumming is a popular fishing technique in Chesapeake Bay that gained popularity in the 1990s, and is the fishing technique the Lukacovic and Uphoff (2007) study examined, it has become less popular in recent years. Since 2000, live lining has increased in popularity, particularly when small spot or other live baits are available in the summer time. Live lining often uses a treble hook inserted in the back of a live bait. While we are not

aware of any studies looking at discard mortality rates associated with live lining, anecdotal observations indicate that the use of treble hooks and live bait more often results in a fish deeply swallowing a hook, increasing the discard mortality rate.

Based on the combination of studies and anecdotal information, we present calculations for conservation equivalent options using both a 27% and 9% mortality rate, with the argument that 27% is the more appropriate figure given current fishing techniques and environmental conditions in Chesapeake Bay during the warmest months of the summer.

The Department is also considering implementing a mandatory circle hook provision for all anglers fishing with bait. Lukacovic and Uphoff (2007) estimated discard mortality rates for circle and J-hooks and these estimates form the basis of our analysis. Using data from Table 4 of their report, we calculated the median discard mortality for circle hooks within the high mortality group (0.145) and compared that to the median discard mortality of the high mortality group, circle and J-hooks combined (0.267). The ratio of circle hook to J-hook mortality (0.543), as well as assumptions on the proportions of fishing with bait and artificial lures throughout the year, were used to estimate the discard mortality with a mandatory circle hook provision for bait fishing.

#### *Estimation of the Change in Total Removals with Smaller Minimum Sizes*

To estimate what the average change in total removals would be if we lowered the minimum size from 20" to 19" for all or portions of the summer/fall season, we used a method similar to that used in Addendum IV. MRIP harvest and discard estimates for Maryland inland areas, all modes combined, were queried by wave for 2000-2014. The years 2000-2014 were chosen as large year classes, similar to the 2011 and 2015 year classes, were present and moving through the population (i.e. the 2011 year class will be age 7 in 2018, the same age as the 1993 year class in 2000). In addition, regulations were generally consistent over this time period with an 18" minimum size and the summer/fall season going until December 15, with the exception of 2000 and 2001 which had seasons that ended on November 30. By averaging 15 years of harvest data, we should be able to account for various sources of variation in total removals, including year class strength, differing weather patterns, economic factors, and changing angler behavior.

The harvest length frequency was used to estimate the number of fish harvested within the 18-18.99", 19-19.99", and  $\geq 20$ " length bins. Harvest length frequencies came from the MRFSS/MRIP survey, the volunteer charter boat survey, and/or the volunteer angler survey (see Excel file "MD LF\_inches" tab for more information on sources and sample sizes by year) and sources were consistent with what was used in the compliance reports, where possible.

The principal assumption of the analysis is that the total catch (harvest plus discards) and its size frequency within a year would not have changed if the minimum size was raised from 18" to 19" to 20". However, all fish that were kept under the 18" minimum size but became sublegal due to the change, would have been released. For each year, harvest and discards were first calculated assuming we had had a 20" minimum size for the whole year (the regulations in place in 2015 and 2016). This was done by subtracting the estimated number of fish harvested in the 18" and 19" length bins from the harvest estimated by MRIP under an 18" minimum size. These fish that are no longer harvested are then added to the number of discards estimated by MRIP. Adding together harvest and dead discards (discards \* the discard mortality rate), the total removals assuming a 20" minimum size were calculated. Following the same concept, harvest, dead discards, and total removals were calculated under a 19" minimum size for all or part of the summer/fall season and compared to the harvest, dead discards, and total removals calculated under a 20" minimum size. Percent change in harvest, dead discards, and total removals were calculated separately for each year. The average percent change in total removals for 2000-2014 was used as the best estimate of how decreasing the minimum size from 20" to 19" for all or part of the fishing season would affect total removals. In addition to the average change in total removals, 95% confidence intervals were estimated as 2 standard errors.



*Additional details on the analysis are as follows:*

- Estimates were made by wave using separate length frequencies for wave 3 and waves 4-6 which align with Maryland's fishing seasons and the possibility of larger fish available to the fishery following the spawning season in wave 3.
- Wave 3 harvest and discards were adjusted based on the proportion of wave 3 harvest that occurs after the trophy season estimated from charter logbooks, a similar methodology as used in the migrant harvest reports (Horne 2017) in order to remove the trophy season from wave 3.
- Calculations are presented two ways: with a 9% discard mortality rate for all waves as assumed in the stock assessment; and a 27% discard mortality rate in waves 3 and 4 and a 9% discard mortality rate in waves 5 and 6 as suggested by the discard mortality studies cited above. These waves best align with the months where the Lukacovic and Uphoff (2007) study indicated higher mortality rates in Chesapeake Bay.
- For calculations where the December fishery was removed (2002-2014), the wave 6 harvest was adjusted assuming 45 days of fishing (the number of days the recreational fishery is open in wave 6). As most of the effort and harvest occurs in November, we feel the simplifying assumption of 45 days of fishing in wave 6 is acceptable. For calculations that use partial waves, catch was assumed to be constant throughout the wave.

An example calculation is shown in Table 1.

## Results

Based on stakeholder input, a variety of options were explored where the 19" minimum size was in place for part of the year and the 20" minimum size was maintained for the rest of the fishing season (Table 2). For options that keep the season open through December 15, our calculations show slight increases of total removals by 2-6%, depending on assumptions made about the discard mortality rate. However, dead discards will decrease 1-2% relative to the number of dead discards estimated under a 20" minimum size. For options that close the season on November 30, the estimated change in total removals ranges from -1% to 5%, assuming a 9% discard mortality rate, and from -2 to 3%, assuming a 27% discard mortality rate in waves 3 and 4.

One benefit of this method is that it includes 15 years of data and we are able to estimate a confidence interval around the estimated change in total removals. Based on these calculations, options A, B, C, G, and H (Table 2) have confidence intervals that encompass zero and are therefore unlikely to result in a net increase in total removals relative to having a 20" minimum size limit for the whole year. While the calculations for some options indicate that total removals may increase slightly (Figure 3), all options achieve our goal of reducing dead discards.

Preliminary analysis based on studies conducted in Chesapeake Bay indicate that mandatory circle hook use for recreational bait fishing throughout the year could reduce discard mortality by approximately 54% compared to J-hooks. When discard mortality rates are decreased by this percentage for bait fishing, our analyses indicate dead discards could be reduced enough that a 19" minimum size for the entire season is estimated to achieve a 0% increase in total removals ( $\pm 2.5\%$ ).

## Conclusions

Maryland is proposing various changes to the Chesapeake Bay summer/fall fishery in order to reduce dead discards which have increased since the 20" minimum size was put in place following Addendum IV. Our analyses demonstrate that these proposed regulations should have a small effect on Maryland's summer/fall total removals, anywhere from -2% to 6% depending on the discard mortality rate assumed, how long the minimum size is 19", and the season length. While Addendum IV was focused on protecting the 2011 year class, this year class is now less available in Chesapeake Bay and generally larger than any minimum sizes we are proposing. However, with the 2015 year class moving into the fishery, we

would like to be proactive in lessening the number of dead discards. With a lower size limit, we also expect that anglers will limit out earlier and discard fewer fish overall. While we are unable to quantify the effect this would have on our total removals, the assumption that anglers will limit out and end fishing trips earlier, thereby discarding fewer fish, would decrease our estimated relative change under a smaller minimum size.

Managers are still soliciting stakeholder input on final regulatory options. While it is possible that one of the options presented in this proposal will be the final option chosen, it is also possible that some changes could be proposed following further discussion. If these methods are approved, we would have the ability to make additional adjustments as necessary. Final regulations would be submitted to the Atlantic Striped Bass Management Board for approval by the May meeting. If approved, new regulations would be implemented for the 2018 summer/fall season and be in place until after the benchmark stock assessment is completed.

#### Literature Cited

Diodati, P.J. and R. A. Richards. 1996. Mortality of striped bass hooked and released in salt water. Transactions of the American Fisheries Society 125: 300-307.

Horne, J. 2017. Final estimate for 2016 of spring harvest of coastal migrant striped bass in Chesapeake Bay. Maryland Department of Natural Resources, Annapolis, MD. 13 pp.

Lukacovic, R. and J.H. Uphoff. 2007. Recreational catch-and-release mortality of striped bass caught with bait in Chesapeake Bay. Fisheries Technical Report Series No. 50. Maryland Department of Natural Resources, Annapolis, MD. 21 pp.

Table 1. Sample calculation for 2002. The regulatory option used in this example is a 19" minimum size in waves 3 and 4 and a 20" minimum size in waves 5 and 6 assuming a 9% discard mortality rate.

- Adjust MRIP wave 3 harvest and discards to remove the trophy season using the proportion of wave 3 harvest that occurs after May 16, based on charter logbooks. In 2002, the trophy season was estimated to be 0.22 of the wave 3 harvest.

$$78,260 * (1 - 0.22) = 61,202 \text{ fish harvested} \quad 456,684 * (1 - 0.22) = 357,142 \text{ fish discarded}$$

- Calculate the new harvest and discards under a 19" and 20" minimum size. Multiply the discards by 9% to estimate the dead discards. Total removals under the new regulatory option are calculated by summing the harvest and dead discards estimated with a 19" minimum size for waves 3 and 4 and a 20" minimum size for waves 5 and 6 (blue cells). The percent change in harvest, dead discards, and total removals is then calculated. Ex: For total harvest under this option, we add 57,950 + 34,672 + 79,916 + 45,951=218,489 fish harvested. This is compared to the harvest calculated with a 20" minimum size all year (218,489/206,588-1) to estimate the proportional change in the harvest.

2002								20" to 19" reduction			
Maryland	Total Number	Number 18-18.99"	Number 19-19.99"	New #s with 19" Min	New #s with 20" min	change in # fish	% change				
Rec Harv Wave 3	61,202	3,252	6,505	57,950	51,445	6,505	0.13				
Rec Harv Wave 4	37,657	2,985	5,396	34,672	29,276	5,396	0.18				
Rec Harv Wave 5	102,794	8,148	14,730	94,646	79,916	0	0.00				
Rec Harv Wave 6	59,106	4,685	8,469	54,421	45,951	0	0.00				
Rec Harv Waves 4-6	199,557	15,819	28,595	183,738	155,143	5,396	0.03				
Discards Wave 3	357,142			360,394	366,899	-6,505	-0.02		December total removals		
Discards Wave 4	458,390			461,375	466,771	-5,396	-0.01		30,808		
Discards Wave 5	1,488,316			1,496,464	1,511,194	0	0.00				
Discards Wave 6	503,225			507,910	516,380	0	0.00		Change in Total Removals		
Discards Waves 4-6	2,449,931			2,465,750	2,494,345	-5,396	0.00		-0.04		
Dead Discards Wave 3	32,143			32,435	33,021	-585	-0.02				
Dead Discards Wave 4	41,255			41,524	42,009	-486	-0.01				
Dead Discards Wave 5	133,948			134,682	136,007	0	0.00				
Dead Discards Wave 6	45,290			45,712	46,474	0	0.00				
Dead Discards Waves 4-6	220,494			221,917	224,491	-486	0.00				
Total Dead Discards	252,637			256,441	257,512	-1,071	0.00		<-estimated change % dead discards		
Total Removals	513,396			474,930	464,100	10,829	0.02		<- estimated change % Total Removals		
Total Harvest	260,759			218,489	206,588	11,901	0.06		<- estimated change % Harvest		

- To remove December, the total removals in wave 6 assuming a 20" minimum size are adjusted (i.e. remove 15 days of harvest and dead discards) assuming constant effort and catch across the wave. This is then subtracted from the total removals estimate for this option (blue cells) and compared to the total removals there would be under a 20" minimum size for the whole season (green cells). In this example:

$$(45,951 + (516,380 * 0.09)) \times \left(\frac{15}{45}\right) = 30,808 \text{ fish}$$

$$(474,930 - 30,808) / 464,100 - 1 = -0.04$$

Table 2. Possible regulatory options explored.

<b>9% Discard Mortality Rate All Year</b>			
Option	Option Description	Estimated Change in Total Removals	2 SE
A	19" May 16-July 31 (No Dec)	-1%	1.1%
B	19" All Year (Circle Hooks)	0%	2.5%
C	19" Waves 3 & 4 (No Dec)	1%	1.4%
D	19" May 16-July 31	4%	0.6%
E	19" All Year (No Dec)	6%	1.7%
F	19" Waves 3 & 4	6%	0.9%

<b>27% Discard Mortality Rate in Waves 3 &amp; 4</b>			
Option	Option Description	Estimated Change in Total Removals	2 SE
G	19" May 16-July 31 (No Dec)	-1%	0.8%
H	19" Waves 3 & 4 (No Dec)	0%	0.9%
I	19" May 16-July 31	2%	0.3%
J	19" Waves 3 & 4	3%	0.5%
K	19" All Year (No Dec)	3%	1.1%

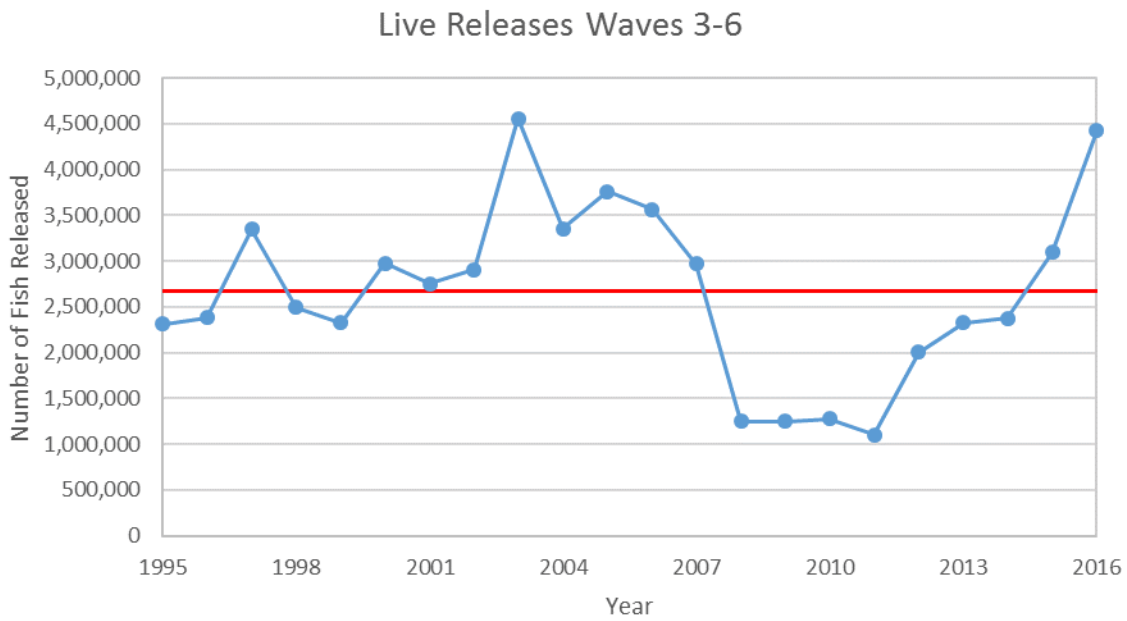
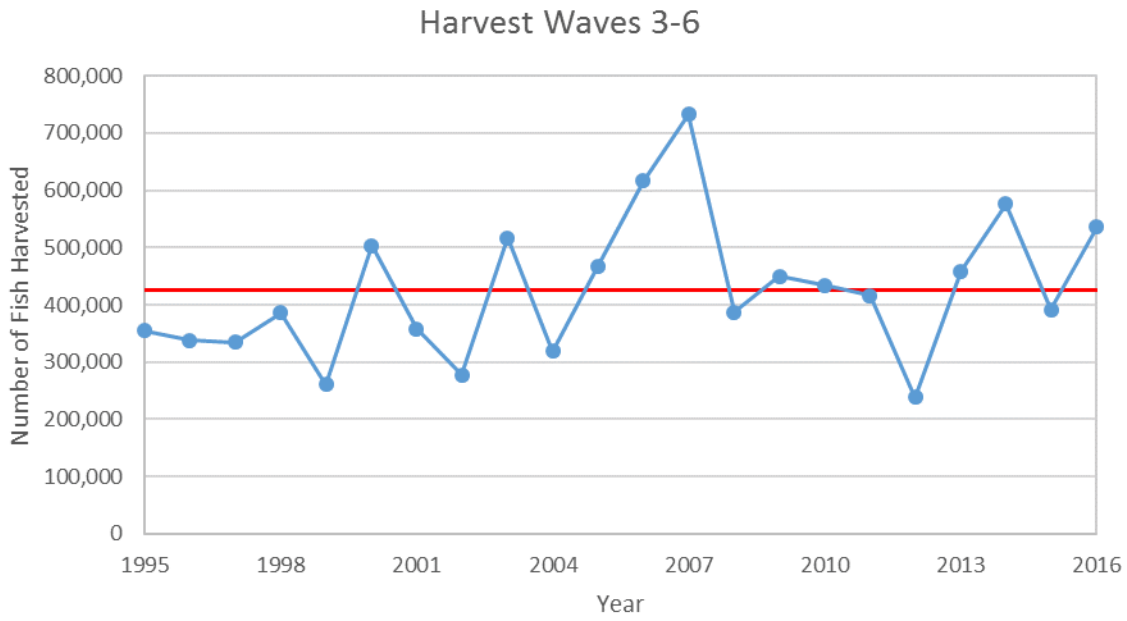


Figure 1. MRIP estimates of harvest and live releases for Maryland inland trips, waves 3-6, all modes combined. The red line is the long term average from 1995-2016.

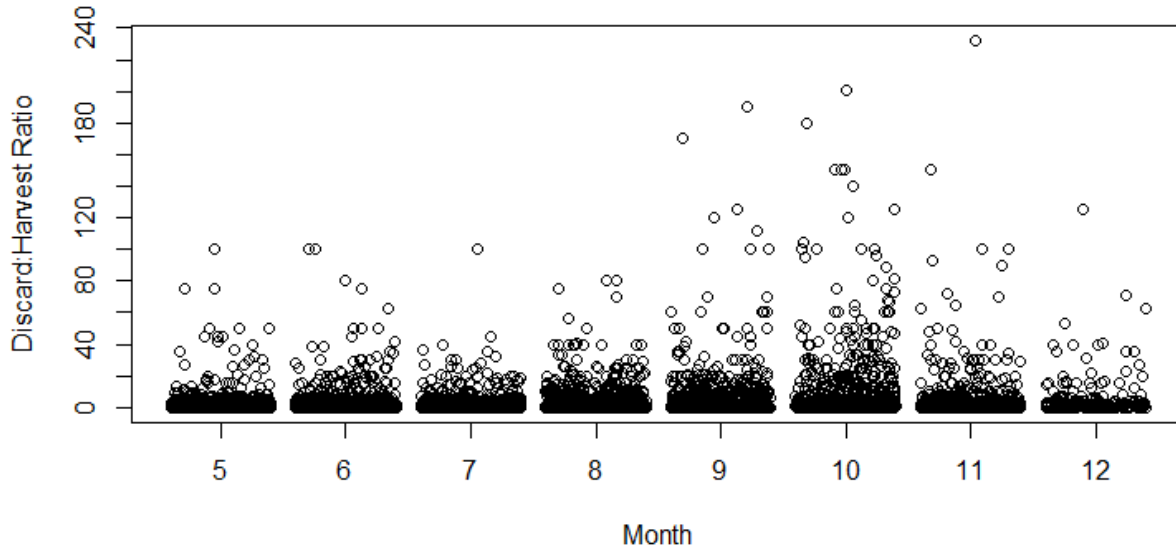


Figure 2. Discard to harvest ratios by month 2015-2016, combined. Each dot represents a logbook trip entry.

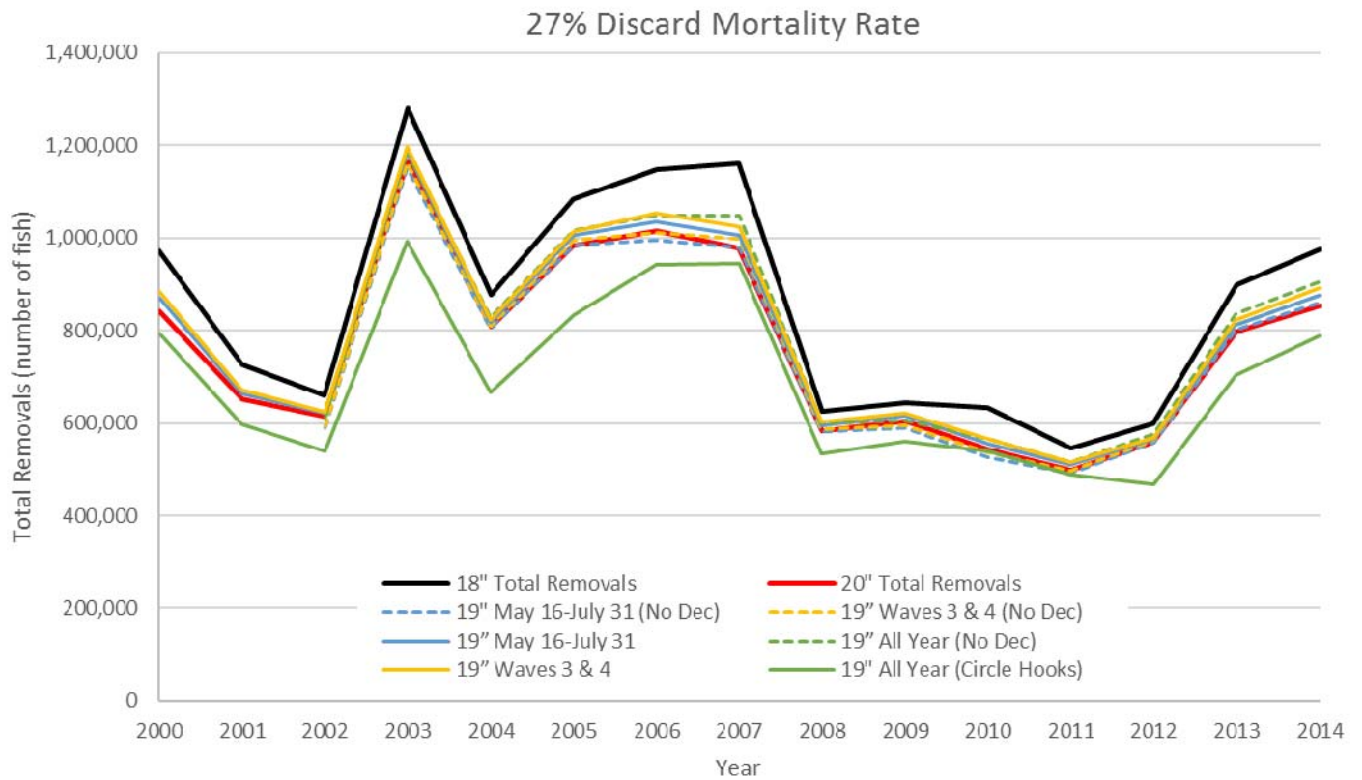
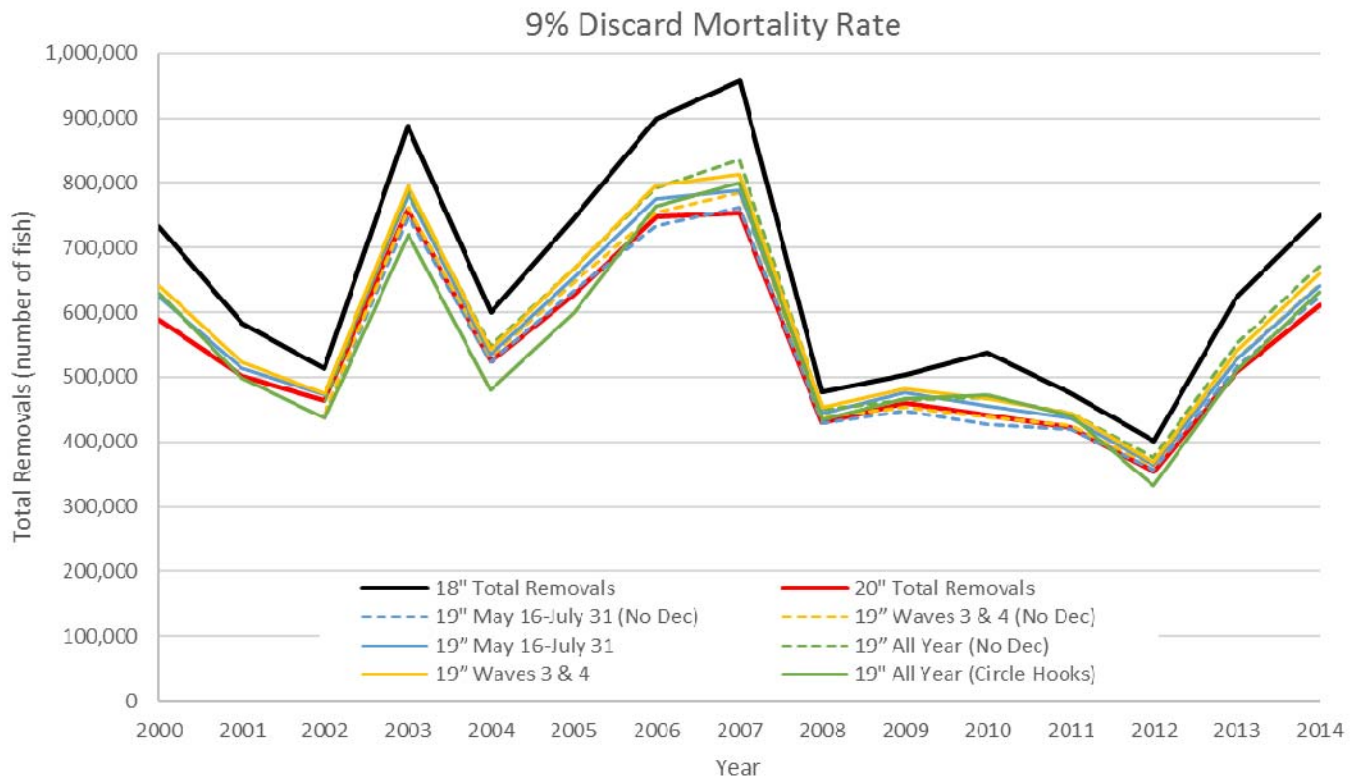


Figure 3. Comparison of estimated total removals, by year, under various minimum size scenarios. Discard mortality is assumed to be 9% (top) and 27% in waves 3 and 4 (bottom). Circle hook estimates are preliminary.



# Atlantic States Marine Fisheries Commission

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## MEMORANDUM

January 18, 2018

**To: Atlantic Striped Bass Management Board**

**From: Atlantic Striped Bass Technical Committee**

**RE: Review of Maryland's Conservation Equivalency Proposal for its Summer/Fall Recreational Fishery in the Chesapeake Bay**

In accordance with Amendment 6 to the Atlantic Striped Bass Fishery Management Plan (FMP), Maryland submitted a conservation equivalency (CE) proposal for its summer/fall recreational Atlantic striped bass fishery in the Chesapeake Bay. CE proposals are subject to Technical Committee (TC) review and Management Board (Board) approval. Accordingly, the Atlantic Striped Bass Technical Committee (TC) met Friday, January 5, via webinar to review the proposal and develop recommendations regarding the technical merit of the proposed measures for Board consideration.

### ***Background:***

In 2015, Maryland raised the minimum size limit in its summer/fall recreational striped bass fishery in the Chesapeake Bay from 18" to 20" to meet the requirements of Addendum IV, i.e., a 20.5% reduction in total removals relative to 2012. Since then, Maryland anglers, particularly the charter boat sector, have expressed concerns regarding the high ratio of released fish to retained fish due to the increased size limit, which has made it very difficult to attract customers. Additionally, there is evidence that the release mortality rate, particularly in the summer months, is much higher than the 9% value used in the coast-wide striped bass stock assessment. Accordingly, Maryland is proposing a number of alternative measures for its summer/fall recreational fishery in the Chesapeake Bay, all of which include a reduced minimum size limit of 19", with the primary goal of reducing dead discards (attached). Quantitative analysis to demonstrate that the proposed measures are equivalent to standards contained in the FMP, i.e., Addendum IV to Amendment 6, was provided.

### ***Technical Committee Review and Recommendations:***

In essence, the proposal indicates that by reducing the minimum size limit from 20" to 19" during the summer/fall season, direct harvest would increase and dead discards would decrease resulting in an estimated 1% decrease to a 6% increase in total removals relative to current levels depending on the option chosen (Table 1 – eleven options in total). One set of proposed measures (A-F) uses a 9% release mortality rate and the second set of proposed measures (G-K) uses a 27% release mortality rate for Waves 3 and 4 (summer months) and 9% for all other waves. Additionally, under Option B, the mandatory use of circle hooks for all anglers fishing with bait would be implemented to achieve the estimated change in total removals.



From a technical perspective, it is the consensus of the TC that in general the data sources and calculation methods are appropriate and accurate, and demonstrate that the proposed measures may have minimal impact on total removals relative to current regulations. The TC did note, however, that the proposal did not follow all of the TC's criteria for Addendum IV CE proposals regarding the time series of data to be used (memos 14-110 and 17-007; enclosed). Specifically, MD used a longer time series of data for the analysis (2000- 2014). Season specific catch and size frequencies and season specific alternative discard mortality rates were also used, however these are allowed by the TC CE criteria if the data used are of equal or better quality than the standard set used for Addendum IV.

Although the TC accepted the proposal's methodology as sound, the TC was not comfortable endorsing any of the proposed measures because it is unclear how to interpret conservation equivalency under Addendum IV for fisheries operating in the Chesapeake Bay.

Conservation equivalency is currently defined in the Interstate Fisheries Management Program (ISFMP) Charter as: "Actions taken by a state which differ from the specific requirements of the FMP, but which achieve the same quantified level of conservation for the resource under management." Addendum IV to the striped bass FMP requires the Chesapeake Bay jurisdictions to implement a management program that achieves at least a 20.5% reduction from 2012 harvest (including estimated dead discards), but does not specify what regulations are to be used to achieve that reduction. Addendum IV addressed several management objectives including conservation of the 2011 year class and conservation of spawning fish to enhance the striped bass fishery long-term, as well as reducing F to a level at or below the target beginning in 2015. According to the 2016 Atlantic striped bass stock assessment update, under current regulations, F in 2015 was below the target ( $F=0.16$ ,  $F_{\text{target}}=0.18$ ).

Although Maryland's proposal did not demonstrate that any of the options meet the 20.5% reduction from 2012 levels, options A, G, and H are calculated to have no effect or a slight reduction in removals compared to current regulations, thus being conservationally equivalent to current regulations but not the measures stipulated in the Addendum. Interpretation of whether this proposal meets the letter or the spirit of the conservation equivalency policy is a decision for the Board.

It is important to note that the usual caveats about the uncertainty in bag and size limit analyses apply here. These analyses do not take into account changes in angler behavior due to the new regulations or changes in the population size structure as large or small year classes move through. Specifically, one TC member commented that anglers, especially in the charter boat sector, would likely not cease fishing after catching the creel limit and therefore the number of released fish would not decrease as proposed under a 19" minimum size limit. However, the data from the MD charter boat fleet indicated that the average number of fish discarded per one fish harvested per trip, was lower under the smaller minimum size management regime. The TC also noted that while the increased size limit likely impacted the ratio of released fish to retained fish since implementation of Addendum IV, the presence of the strong 2011 year class in the fishery was also likely an important factor because the proportion of sublegal fish in the population was larger in 2015 and 2016 than in the recent past. The

TC notes that another strong 2015 year class will be entering the fishery in 2018 and will likely contribute to discard mortality in the coming years.

Lastly, in regards to the use of an alternate release mortality rate in Option B, the TC supports the use of circle hooks to reduce post release mortality. However, the TC does not endorse such provisions for conservation equivalency at this time because of the many challenges to accurately calculate the expected change in total removals, e.g., enforceability and angler response. Additionally, the TC needs more information regarding the specific circle hook(s) that would be required and to which anglers the provision would apply to make a justified decision.

Table 1. Possible regulatory options. Source: Maryland Conservation Equivalency Proposal. 2017.

<b>9% Discard Mortality Rate All Year</b>			
Option	Option Description	Estimated Change in Total Removals	2 SE
A	19" May 16-July 31 (No Dec)	-1%	1.1%
B	19" All Year (Circle Hooks)	0%	2.5%
C	19" Waves 3 & 4 (No Dec)	1%	1.4%
D	19" May 16-July 31	4%	0.6%
E	19" All Year (No Dec)	6%	1.7%
F	19" Waves 3 & 4	6%	0.9%

<b>27% Discard Mortality Rate in Waves 3 &amp; 4</b>			
Option	Option Description	Estimated Change in Total Removals	2 SE
G	19" May 16-July 31 (No Dec)	-1%	0.8%
H	19" Waves 3 & 4 (No Dec)	0%	0.9%
I	19" May 16-July 31	2%	0.3%
J	19" Waves 3 & 4	3%	0.5%
K	19" All Year (No Dec)	3%	1.1%



# Atlantic States Marine Fisheries Commission

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## MEMORANDUM

November 20, 2014

**To: Atlantic Striped Bass Technical Committee**  
**From: Michael Waive, FMP Coordinator**  
**RE: Technical Committee Criteria for Conservation Equivalency with Addendum IV**

The Atlantic Striped Bass Technical Committee met via conference call on November 18, 2014 to discuss implementation plans for Addendum IV to Amendment 6. The Technical Committee established the following criteria for the development of conservation equivalency proposals.

### Recreational Fishery

1.) States can choose any option from the B table below (options B1-B9) for their coastal recreational fishery without further analysis. Chesapeake Bay states can choose any option from Table B or C that achieves at least a 20.5% reduction for their Bay recreational fisheries (Chesapeake Bay tables were in Draft Addendum IV for Public Comment).

Option	Bag Limit	Size limit	Trophy fish	% reduction from 2013 harvest
B1	1	28" min	n/a	31%
B2	1	30" min	n/a	greater than 31% <sup>3</sup>
B3	1	32" min	n/a	greater than 31% <sup>3</sup>
B4	1	28-40" slot	n/a	greater than 31% <sup>3</sup>
B5	2	33" min	n/a	29%
B6	2	28-34" slot	n/a	28%
B7	2 (1 slot, 1 trophy)	1 fish 28-34" slot	1 fish 36" min	28% <sup>3</sup>
B8	2 (1 slot, 1 trophy)	1 fish 28-36" slot	1 fish 38" min	26% <sup>3</sup>
B9	2 (1 slot, 1 trophy)	1 fish 28-37" slot	1 fish 40" min	26% <sup>3</sup>

- 2.) If deviating from options in the B table, states need to submit a state specific analysis using state specific data that demonstrates their proposal meets at least a 25% reduction in total recreational removals. The TC created the following standards for treatment of datasets:
- Data years: pool three years of data, 2011-2013.
  - Treatment of sublegal harvest or trips that exceed the bag limit: Assume perfect compliance for 2015, but imperfect for 2013 (this is what the TC used for the coastwide analysis to create the B table options).
  - Post release mortality: Use 9% as default or an alternative if data exist to estimate it.
  - Supplemental data: If using supplemental data describe the source (e.g., voluntary angler surveys) and characteristics of the supplemental datasets (e.g., methods, sample size, other measures to help evaluate quality).
    - Justify the use of supplemental data in support of or to replace MRIP data.
    - Explain dataset applicability to the type of analysis you are completing.
- 3.) If treating modes separately (i.e., private and for-hire party/charter) states must submit mode-specific data analyses adhering to the data standards established in item 2.

- Note: State(s) must achieve at least a 25% reduction in total removals. This means private or party/charter modes may achieve less than a 25% reduction, but the total, state-wide reduction (weighted by mode-specific removals) must equal at least 25%.
- 4.) If treating seasons separately (e.g., different regulation between spring and fall) states must submit season-specific data and analysis adhering to the data standards established in item 2.
- 5.) Regional proposals can combine data from all states in the region, but if a state drops out of the regional proposal later on, the remaining states must redo the analysis to show they still achieve at least the 25% reduction.
- 6.) The TC also discussed Individual state methodologies as detailed below.

Recreational Fishery

- New Jersey is using SAS code from the analysis of options B7-B9 as previously done. The following is an approved dataset treatment that would apply to options that consider changes to both size and bag limits. Note this treatment is in addition to the data standards established in item 2.
  - Modification of MRIP data: distribute fish to individuals even if the fish caught was not by the individual interviewed. If MRIP can't identify whose fish it is they randomly distribute the fish to the individuals in the party until they run out. This expands the sample size of the dataset used to estimate the reduction in harvest.
  - Note: it is acceptable to use expanded MRIP data if there is only a change to the bag limit or size limit, not both.

Commercial Fishery

- 7.) If a state would like to maintain a previously approved conservation equivalency proposal for its commercial fishery the state needs to resubmit its proposal adjusting its conservation equivalency quota to the new Addendum IV quota baseline (highlighted below).

	<b>For Reference</b>	<b>Addendum IV Quota</b>
<b>State</b>	<b>Am6 Quota (lbs)</b>	<b>25% reduction from Am6 Quota (lbs)</b>
Maine	250*	188
New Hampshire	5,750*	4,313
Massachusetts	1,159,750	869,813
Rhode Island	243,625†	182,719
Connecticut	23,750**	17,813
New York	1,061,060†	795,795
New Jersey	321,750**	241,313
Delaware	193,447	145,085
Maryland	131,560†	98,670
Virginia	184,853	138,640
North Carolina	480,480	360,360
<b>Coastal Total</b>	<b>3,806,275</b>	<b>2,854,706</b>

\* Commercial harvest/sale prohibited, with no re-allocation of quota.

\*\* Commercial harvest/sale prohibited, with re-allocation of quota to the recreational fishery.

† Quota reduced through management program equivalency; NY (828,293 pounds) and MD (126,396 pounds) beginning in 2004, RI (239,963 pounds) beginning in 2007.

- For example: Maryland reduced its coastal commercial minimum size limit from 28” to 24” which resulted in a reduced quota from 131,560 to 126,396 pounds using yield per recruit methodology. If Maryland chooses to maintain its 24” minimum size then it must re-submit a similar proposal that reduces its Addendum IV baseline quota (98,670 pounds) using a yield per recruit equivalency of 28” and 24” minimum size limits.
- If states with previously approved conservation equivalency choose to increase their minimum size back to 28” there is no conservation equivalency needed, even if they establish a maximum size, because they are choosing to be more conservative. This would result in a state reverting back to its new baseline Addendum IV quota shown in item 7.
- If states submit a conservation equivalency proposal to increase their commercial quota based on establishing an increased minimum size limit, then the TC recommends incorporating an estimation of dead discards into the analysis.



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## MEMORANDUM

January 13, 2017

**To: Atlantic Striped Bass Management Board**  
**From: Atlantic Striped Bass Technical Committee**  
**RE: Percent Liberalization in Harvest (0.16 to 0.18) and Dataset Recommendation for Conservation Equivalency Proposals**

In October 2016, the Atlantic Striped Bass Board (Board) tasked the Technical Committee (TC) to 1) determine the percent liberalization in harvest that would increase fishing mortality (F) from the 2015 terminal year estimate of 0.16 to the FMP target F of 0.18, and 2) to recommend a preferred dataset using updated length-frequency data for states to use when preparing conservation equivalency proposals for recreational regulations. The following represents the work completed by the TC to address these two tasks.

## **Task 1**

### **Methods:**

The two projection scenarios examined were:

1. Project population starting in 2015 through 2017 using preliminary removals for 2016 and fishing mortality (F) of 0.18 (i.e., F target) in 2017. Estimate total removals in 2017.
2. Project population starting in 2015 through 2017 using constant F of 0.156 in 2015 and F of 0.18 in 2016 and 2017. Estimate total removals in 2016 and 2017.

For Scenario 1, error in F and starting abundances for 2015 was assumed. For Scenario 2, only error in starting abundances was assumed. Projections were made for the uncorrected and retrospective bias-corrected estimates of F and spawning stock biomass (SSB), and 10,000 runs were made for each scenario.

### **Results:**

Preliminary 2016 removals are estimated at 3,557,510 fish<sup>1</sup> which is an 18% increase in removals from 2015 (3,017,358 fish). According to the projection model (Tables 1-2), the number of harvested fish that it would take to increase F from 0.156 in 2015 to 0.18 (target F) in 2017 ranges from 303,800 fish (Scenario 2, without retrospective bias correction) to 341,186 fish (Scenario 1, with retrospective bias correction), a 10 - 11% increase in removals from 2015 (Table 3), but a reduction of approximately 6% from preliminary 2016 estimates of removals.

### **Discussion:**

Although projections indicate harvest could increase in 2017 relative to 2015 numbers, all of the scenarios result in 2017 removals that are less than the preliminary 2016 removals.

According to the projections in Scenario 1, F increased to 0.19 in 2016 which is above the F target (0.18) indicating that current recreational and commercial regulations may result in an F of 0.18 or greater in 2016 and 2017. Also, the 2016 removals estimate for Scenario 1, although preliminary, is higher than that estimated via a constant F of 0.180 in Scenario 2. In other words, if the final 2016 removals estimate is lower than that used for Scenario 1, it is still likely that F will be estimated above the F target in 2016.

The TC also stresses that although the assessment is very good, it may not be able to distinguish between fishing mortality point estimates of 0.16 and 0.18. In other words, the upper and lower bounds of the confidence intervals for both F estimates would essentially overlap.

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<sup>1</sup> Preliminary removals for 2016 were estimated via the sum of the 2016 preliminary MRIP harvest and dead discards estimate (A+B1+9% of B2's; waves 2-5), the 2015 wave 6 harvest and dead releases estimate from the Mid-Atlantic (wave 6 for 2016 has not been released yet), the 2015 Virginia wave 1 harvest estimate, the preliminary 2016 commercial landings estimates (except 2015 commercial landings were substituted for New York and Virginia because final 2016 landings are expected to be significantly higher for those states), and the 2015 commercial discards estimate.

Table 1. Scenario 1; preliminary 2016 removals estimate. Results of 2016 fishery independent surveys are not accounted for in the 2016 and 2017 stock status projections (F and SSB). Removals are in number of fish. \*median value

No Retrospective Bias-Correction						
Year	Removals	F	*Estimated Removals	*SSB (mt)	Probability F is above the threshold	Probability SSB is below the threshold
2015	3,017,358	0.156		58,886	0.021	0.411
2016	3,557,510	0.194		58,754	0.175	0.407
2017		0.180	3,329,752	58,677	0.058	0.417
Retrospective Bias-Correction						
Year	Removals	F	*Estimated Removals	*SSB (mt)	Probability F is above the threshold	Probability SSB is below the threshold
2015	3,017,358	0.148		61,622	0.011	0.244
2016	3,557,510	0.190		61,752	0.140	0.218
2017		0.180	3,358,416	61,466	0.058	0.233

Table 2. Scenario 2; constant F of 0.156 for 2015 and F of 0.18 for 2016 and 2017. Results of 2016 fishery independent surveys are not accounted for in the 2016 and 2017 stock status projections (F and SSB). Estimated removals are in number of fish. \*median value

No Retrospective Bias-Correction				
Year	F	*Estimated Removals	*SSB (mt)	Probability SSB is below the threshold
2015	0.148	3,017,230	58,847	0.417
2016	0.180	3,270,465	57,902	0.481
2017	0.180	3,321,030	58,478	0.436
Retrospective Bias-Correction				
Year	F	*Estimated Removals	*SSB (mt)	Probability SSB is below the threshold
2015	0.156	3,017,230	61,471	0.254
2016	0.180	3,318,723	60,310	0.307
2017	0.180	3,332,337	60,595	0.277

Table 3. Percent liberalization in harvest that would increase fishing mortality (F) from the 2015 terminal year estimate of 0.16 to the FMP target F of 0.18. Removals are in number of fish. \*model-based estimate. ^based on 2016 preliminary removals estimate; 3,557,510 fish (see footnote above).

Scenario	2015 Removals	2017* Removals	Change in Removals	Percent Change in Removals From 2015	Percent Change in Removals From 2016^	Retrospective Bias?
1	3,017,358	3,329,752	312,394	+10%	-6.4%	No
		3,358,416	341,186	+11%	-5.6%	Yes
2	3,017,230*	3,321,030	303,800	+10%	-6.6%	No
		3,332,337	315,107	+10%	-6.3%	Yes



## **Task 2**

In November 2014, the TC set criteria for the development of conservation equivalency (CE) proposals (M14-110). The TC acknowledges that 2011-2013 data are no longer appropriate for CE proposals due to the emergence of the 2011 year class in the catch data and the change in size-frequency of the current population. The TC discussed that a length-based projection model would be the best approach for states to use to address variability concerns, and is interested in pursuing the development of the model. However, until such a model is developed, the TC recommends states use the most recent three years of size-frequency data for preparing CE proposals unless a state can justify using less data. For example, the sample size from the most recent two years (or one year) may be sufficient. States should explicitly state its justification for using less than the most recent three years of data within the CE proposal.



# Atlantic States Marine Fisheries Commission

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## MEMORANDUM

January 10, 2018

**To: Atlantic Striped Bass Management Board**  
**From: Law Enforcement Committee**  
**RE: Review of Maryland Conservation Equivalency Proposal**

The Law Enforcement Committee (LEC) of the Atlantic States Marine Fisheries Commission (ASMFC) reviewed the Maryland Conservation Equivalency Proposal during a teleconference meeting on January 8, 2018.

The following were in attendance: *LEC: Capt. Steve Anthony (NC); Dep. Chief Kurt Blanchard (RI); Lt. Col. Larry Furlong (PA); Lt. Tom Gadowski (NY); Sgt. Greg Garner (SC); Wayne Hettenbach (USDOJ); Maj. Rob Kersey (MD); Capt. Bob Lynn (GA); Capt. Doug Messeck (DE); Katie Moore (USCG); Maj. Patrick Moran (MA); Lt. Patrick O'Shaughnessy (NOAA OLE SE Div); Col. Kyle Overturf (CT); Eric Provencher (NOAA OLE NE Div); Capt. Jason Snellbaker (NJ)*

*STAFF: Max Appelman; Mark Robson; Mike Schmidtke; Megan Ware*

Max Appelman of ASMFC staff provided an overview of Maryland's proposal and the LEC provided the following comments:

Regarding options to reduce the size limit from 20 to 19 inches, the LEC recommends that all states strive for consistent size and bag limits when regulating contiguous waters, and for charter/headboat and general recreational fishermen to all have the same size limits. However, there were no specific objections to the Maryland proposal for a reduced size limit in the Chesapeake Bay recreational season in the summer/fall period. The LEC recommendation for consistency mirrors comments made during the last round of equivalency proposals for striped bass, which are detailed in a memorandum to the Striped Bass Management Board (*dated January 26, 2015*).

Regarding an option to include a mandatory use of circle hooks along with a year-round size limit reduction, the LEC urged caution in relying too much on strict enforcement of such a gear requirement to ensure meeting harvest reduction targets. Experience in some states has shown that courts are reluctant to prosecute such violations, especially where it may be difficult to demonstrate a clear intention to violate the regulation by recreational anglers. Unless a regulation applies across the board for all species potentially being targeted by anglers, strict enforcement is difficult.

The LEC appreciates the opportunity to comment on conservation equivalency proposals for the Atlantic striped bass fishery.



# Atlantic States Marine Fisheries Commission

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## MEMORANDUM

January 17, 2018

**To: Atlantic Striped Bass Management Board**  
**From: Atlantic Striped Bass Advisory Panel**  
**RE: Review of Maryland Conservation Equivalency Proposal**

The Atlantic Striped Bass Advisory Panel (AP) met via teleconference on January 12, 2018, to review and provide comment on Maryland's Conservation Equivalency Proposal for Board consideration.

The following AP members were in attendance: Edwin Cook (RI), Peter Whelan (NH), John Pedrick (PA), Lou Bassano (NJ, AP Chair), Arnold Leo (NY), Al Ristori (NJ), Ed Obrien (MD), David Sikorski (MD), Kelly Place (VA), John McMurray (NY), Joe Fletcher (DC), Dave Pecci (ME, submitted comments electronically). Public attendance included Lou MacKeil (MA).

M18-006

Max Appelman (FMP Coordinator) provided an overview of Maryland's proposal and the AP provided the following comments:

Regarding the proposed options, the AP supports Option B: 19" minimum size limit, all year, with a mandatory circle hook requirement. However, the AP stressed that there is a big difference between the realized conservation benefit and circle hook size, and offset versus in-line. As such, the AP stressed that this requirement must be explicitly defined. The AP added that a non-offset circle hook is preferred, and that larger hooks are generally associated with higher post-release survival (larger circle hooks are less likely to be ingested).

The AP agrees that there is a real issue in the Chesapeake Bay with dead releases. The AP commented that the number of small (undersized) fish in the Bay is overwhelming, and therefore catching large amounts of small fish is unavoidable. Accordingly, much of the discussion focused on the proposals mandatory use of circle hooks to reduce dead discards. In general, the AP feels strongly that circle hooks provide a true conservation benefit and that all striped bass fisheries should implement mandatory circle hook requirements, not just in the Chesapeake Bay. Moreover, the AP noted several times that the use of treble hooks with any bait (live or chunk) should be banned in all striped bass fisheries coast-wide, commercial and recreational. Some AP members did express concerns, however, regarding the precedence of demonstrating conservation equivalency by using a circle hook requirement to achieve a specific post-release mortality rate. That being said the AP believes the conservation benefits outweigh those concerns.

**Motion: Move to support Maryland Proposal Option B: 19" minimum size (all year) with a mandatory circle hook requirement.** Motion by Mr. McMurray, seconded by Mr. Place. Motion passes without objection.

## **Appendix 1.**

*NOTE: The following comment is not to be considered a reflection of AP's discussion or opinion. The comment was submitted after the scheduled teleconference, and as such, the AP did not have an opportunity to respond to or address the comment during its discussion. However, because the commenter is an active member of the AP and was unable to participate in the scheduled teleconference due to unforeseen circumstances, the comment is included below as an appendix to this memo.*

---

To: Max Appelman

From: Patrick Paquette; Striped Bass AP Member, Massachusetts

Date: January 17, 2018

RE: Comments Related to Maryland Proposal for Conservation Equivalency.

First, I agree with the consensus of the AP that there is a real issue with dead discards in the Chesapeake Bay that needs to be addressed. I also agree that the circle hook requirement needs to be explicitly defined in terms of hook type and size because the tackle industry has yet to standardize the term "circle hook" resulting in over 100 different models (not sizes) that list the word "circle" on the package. Additionally, many of the more popular circle hooks (e.g., Octopus Circle) are designed in such a way that that the conservation benefits over a traditional J hook are lost.

However, I am opposed to the Maryland proposal because the realized conservation benefits from a mandatory circle hook requirement is highly uncertain, especially in the short term. Although circle hooks provide a conservation benefit over the use of treble hooks and most J hooks, I believe that it is impossible for a circle hook regulation in today's reality (e.g., terminology challenges within the tackle industry and uncertainties regarding angler behavior) to provide enough conservation benefit to offset any measurable amount of discard mortality. Yes, we can define a circle hook and responsible tackle shops and captains will comply, but considering a Walmart tackle aisle in the area sells thousands of faux circle hooks I see no way the proposal can be effective. Also, mandatory gear regulations tend to raise the cost of said gear to the consumer, and the economic impacts to anglers, retailers, distributors and manufactures were not addressed in the proposal.

# Atlantic States Marine Fisheries Commission

## Risk and Uncertainty Policy Workshop

*February 8, 2018  
8:00 – 10:00 a.m.  
Arlington, Virginia*

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

- |                                                                                                                  |            |
|------------------------------------------------------------------------------------------------------------------|------------|
| 1. Welcome and Introduction ( <i>B. Beal/J. Gilmore</i> )                                                        | 8:00 a.m.  |
| 2. Workshop Objectives and Structure ( <i>J. McNamee</i> )                                                       | 8:05 a.m.  |
| 3. Instant Response Technology Tutorial                                                                          | 8:20 a.m.  |
| 4. Risk and Uncertainty Exercise: Defining Risk and Uncertainty in Striped Bass Management ( <i>J. McNamee</i> ) | 8:30 a.m.  |
| 5. Commission Risk Policy Status and Next Steps ( <i>J. McNamee</i> )                                            | 9:30 a.m.  |
| 6. Adjourn                                                                                                       | 10:00 a.m. |

The meeting will be held at the Westin Crystal City, 1800 Jefferson Davis Highway, Arlington, VA 22202



# Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201  
703.842.0740 • 703.842.0741 (fax) • www.asmf.org

## MEMORANDUM

TO: ISFMP Policy Board

FROM: Risk and Uncertainty Policy Workgroup

DATE: 10/5/16

SUBJECT: Recommended Decision-Tree Framework for Commission Risk and Uncertainty Policy

In the past, the Assessment Science and Management and Science Committees have attempted to develop a comprehensive risk and uncertainty policy for the Atlantic States Marine Fisheries Commission. This process has been revived as uncertainty becomes better understood and a standard element in scientific and management procedures. Recent management decisions emphasize the need to develop a policy to increase repeatability and transparency of our process. Uncertainty must be adequately accounted for in management decisions in order to meet management target levels, rebuild depleted stocks, and maximize resource utilization. When making fishery management decisions, the level of acceptable risk is ultimately a policy decision and should be clearly articulated to fishery stakeholders and other interested parties. Also, it has been increasingly noted that the lack of a risk policy leaves technical committees with unclear guidance on the acceptable level of risk to account for in their management recommendations. Risk and uncertainty policies have proven to be an effective tool for fishery management bodies to create decision-making accountability, and to maintain transparency throughout the management process by providing the necessary technical committee guidance to develop risk-based management recommendations. The Risk and Uncertainty Policy Workgroup has met several times to discuss the purpose, goals, and objectives of the Commission policy and develop a framework.

**Policy purpose statement:** *"The Commission recognizes that fishery information is inherently variable, and that successful management requires full consideration of this uncertainty and the associated risks on management decisions. The purpose of the Commission's Risk and Uncertainty Policy is to provide a consistent yet flexible mechanism to account for both scientific and management uncertainty in the Commission's decision making process in order to protect all Commission-managed stocks from the risk of overfishing, while minimizing any adverse social, economic, or ecosystem effects. This Policy seeks to maximize the long term benefits across all of our marine fishery resources by providing objective criteria to characterize both scientific and management uncertainty, and to evaluate management risk. Additionally, the Policy improves transparency in the management process, allowing for better communication among managers, industry, and other stakeholders."*

**Goal: Adequately account for uncertainty at all levels of the Commission's management process to maximize informed decision-making**

- Apply technical committee expertise to identify, and quantify where possible, sources of scientific uncertainty in the stock assessment process.
- Ensure that management uncertainty is captured in the stock assessment process or integrated into decision-making by utilizing knowledge of issues such as enforcement or non-compliance.
- Incorporate social and economic factors through application of current information and data while recognizing the need to develop more robust quantitative instruments.

M16-89

**Goal: Consistently manage Commission species**

- Apply across all Commission-managed species while incorporating nuances of each individual species.
- Provide stability with a standardized procedure that is predictable in process, although outcomes may not be predictable.
- Provide explicit guidance to the technical committee for specifying management recommendations that are in line with the Board's risk tolerance for all ASMFC-managed species.

**Goal: Provide transparency in Commission's risk-management process**

- Clearly articulate and document the sources of uncertainty and the potential repercussions of that uncertainty on management decisions to stakeholders and decision-makers.
- Specify where uncertainties are accounted for in the decision-making process.
- Create management-level accountability through explicit and documented reasoning during final risk acceptance process.
- Increase accessibility to and understanding of the decision-making process to promote better engagement with stakeholders and other interested parties.

**Goal: Incorporate flexibility in the Commission's risk-management process**

- Implement a standard policy for reviewing the process so there is an avenue to revisit the risk policy and procedures in the face of changing science and knowledge of different fish and fisheries.
- Account for uncertainty estimates that cannot be quantitatively assessed by allowing managers to accept a harvest level that is greater than or less than the level recommended by the technical committee through an explicit documentation of the departure from the quantitative advice, to achieve the risk objectives of the Commission.

A comprehensive risk and uncertainty policy would provide guidance on everything from choosing biological reference points to setting quotas for data poor species. The development of such a policy is the long-term goal of the Risk and Uncertainty Policy Workgroup, but the WG also recognizes the investment in time and resources it will take to bring such a comprehensive document to completion. This would require setting specific management objectives for each species and conducting a management strategy evaluation. Thus, the WG recommends that the development and deployment of the policy be implemented in phases, beginning with a decision tree approach that will allow the Commission to set acceptable risk levels when determining quotas for data-rich species.

The Commission frequently has to set quotas or harvest regulations with a goal of moving a population to, or keeping a population at, a sustainable level, which often is defined by a target and threshold. The management options to achieve this goal are usually evaluated through short-term projections. These projections take into account variability in recruitment, current status, growth, natural mortality, and/or other factors to determine a range of possible outcomes. A technical committee then evaluates what percent of projected outcomes are at or below the F threshold. This is a way of quantifying the risk of a harvest reduction or increase strategy with regard to the stock entering an overfishing state or an unsustainable population size, e.g. the lower the percentage of runs at or below the F target, the higher the risk of exceeding that target will be if the management program is implemented. Generally, smaller reductions or bigger increases will have a higher risk of failing to keep F at or below the target, and it is



the Board's responsibility to decide what level of risk they are willing to accept in these management decisions.

The level of acceptable risk will vary from situation to situation. For species that are not overfished and not experiencing overfishing, the Board may accept a higher risk level than for species that are overfished. Likewise, the Board may want to apply a lower risk level for species that do not have robust assessments, or robust data to support harvest policy analyses. Life history characteristics specific to a species being managed may also influence the process of determining risk tolerance. Establishing guidance on what level of risk the Commission is willing to accept in different situations will allow technical committees to work more efficiently and provide the advice the Boards need, and will allow the public greater clarity in understanding the process of how catch advice is developed.

One possible way of providing this advice would be a decision-tree. Each technical committee would review a series of questions as part of their terms of reference for the assessment regarding stock status and the quality of the assessment and/or other information about that species, and arrive at a Board approved pre-determined level of risk (i.e., the probability of overfishing or of exceeding the F target, and the probability of the stock becoming overfished or declining below the SSB target) that would be used to develop catch advice. For example:

- **Can the stock status be determined?**
- **Is the stock status overfished/depleted?**
- **Is overfishing occurring?**
- **Is SSB above the target?**
- **Is F below the target?**
- **To what degree are the major sources of uncertainty captured within the assessment?**
- **Is there a negative retrospective bias (i.e. underestimating F and overestimating B)?**
- **Is this a long-lived, slow-growing species that would be difficult to rebuild?**

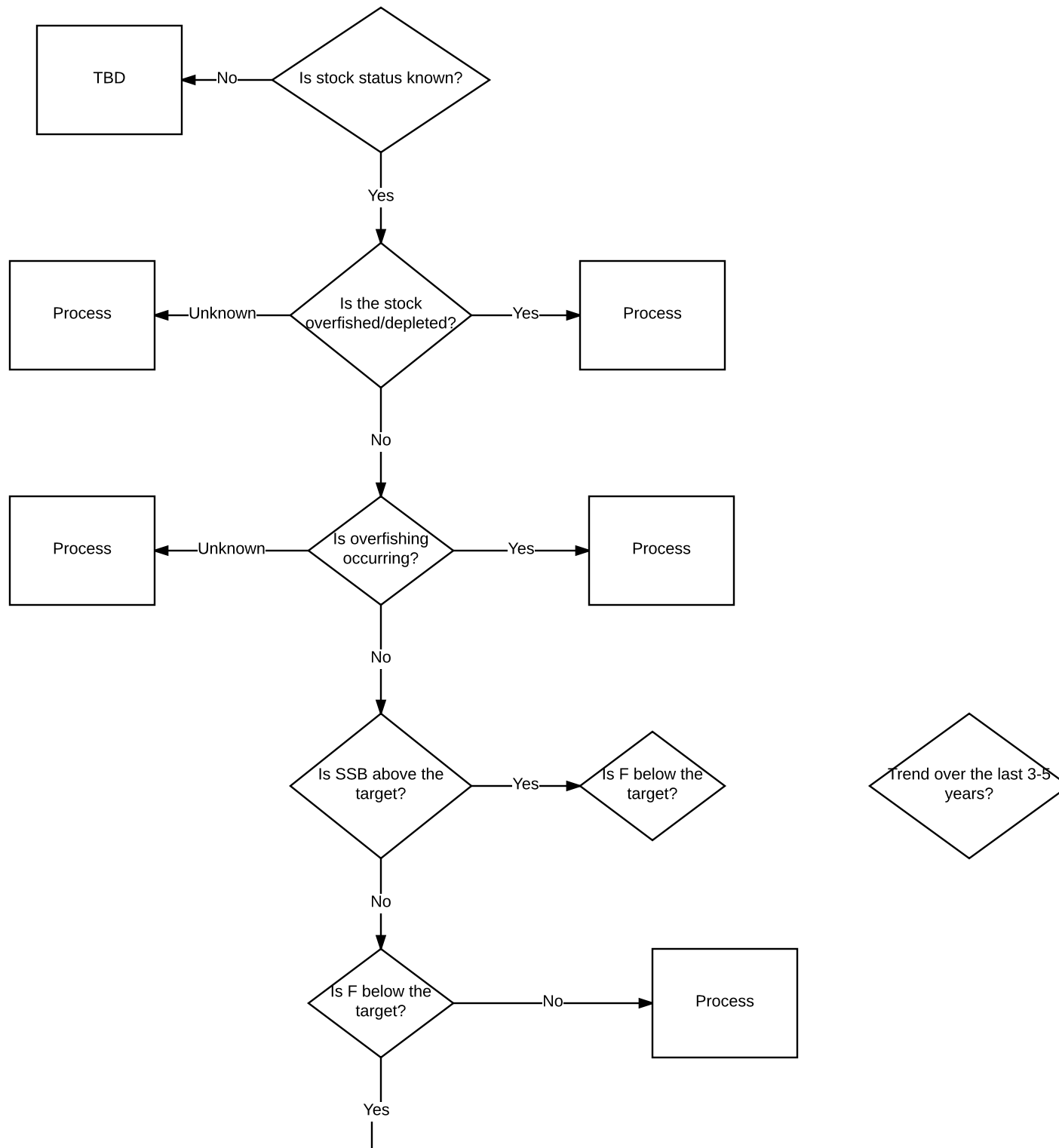
At the end of the decisions, a technical committee would know what probability of overfishing or becoming overfished to use in developing advice based on projections. These levels would be established through the overarching Commission risk policy for all species, but the application of this policy would still allow for some flexibility at the Board level. The Board may select a harvest reduction that is greater than or less than the level recommended by a technical committee to achieve the risk objectives of the Commission, but if they choose an alternate harvest reduction, they must be explicit about the level of risk they are assuming with regards to achieving the F target. This allows some flexibility for qualitative uncertainty estimates while still meeting the transparency and accountability goals of the Commission.

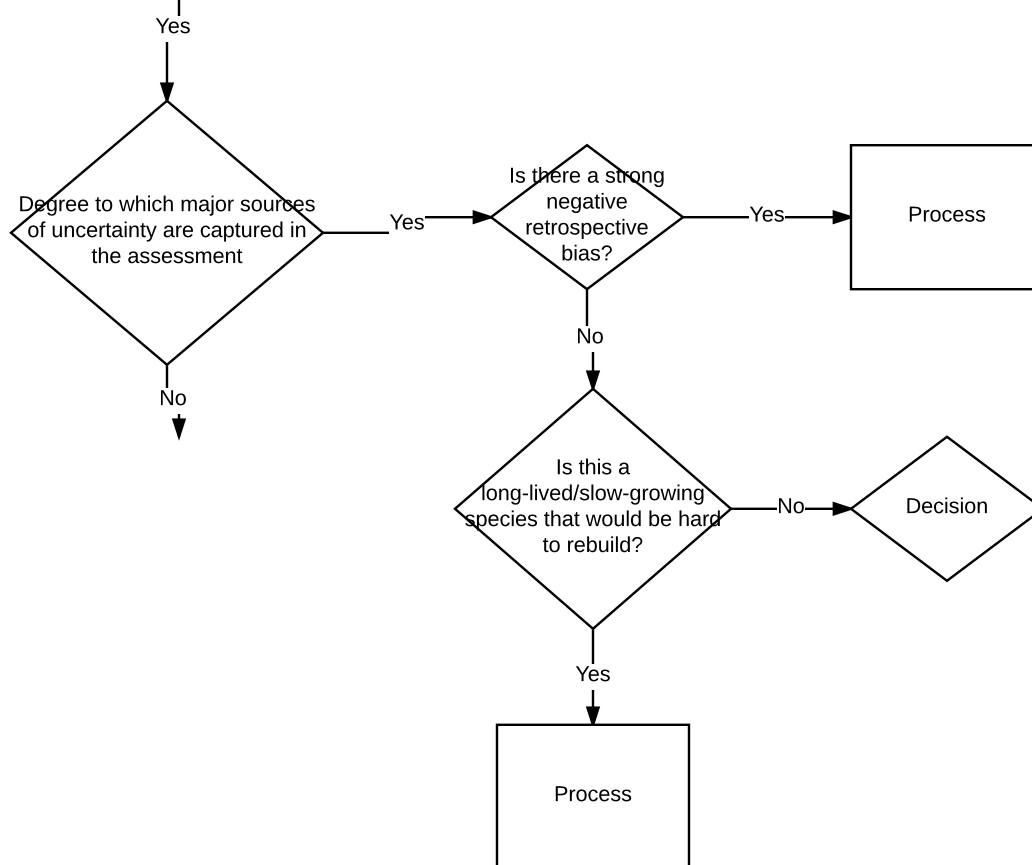
In September, the Risk and Uncertainty Policy Workgroup, met to discuss the development of the Commission's policy using a decision-tree framework. The group focused on populating a decision-tree using an example species that is fairly data-rich and therefore stock status could be determined. Quantitative and objective questions to assess the level of uncertainty surrounding a stock assessment and management process were incorporated into the decision-tree. All topics and questions that the group believed were more qualitative and subjective (either due to lack of data or general information) were placed into categories at the end of the tree. These categories could be used by the Board to describe their reasoning to flexibly change the risk level that the technical committees quantitatively assess and recommend beforehand. An informational document could be distributed to the Board that would hold some of the qualitative information in a more descriptive way. The group also recommended

creating a template for a formal Advisory Panel report that could provide additional information regarding some uncertainties, especially social science and economic concerns.

The WG added some “placeholder” levels of risk, using examples of Board queries from recent meetings but added some lower probabilities (30%, 40%, 50%, 60%, and 75% probability of being at or below F target). The group decided that stronger justification can come later from the Policy Board, ASC/MSC, and literature meta-analysis. For this example, the risk levels are disconnected from the rest of the chart since the WG did not create a quantitative measure to link them at this time. Giving each question an overall weight, and then scoring the questions relative to each other might make the process more quantitatively linked to each risk level for the final product.

The Workgroup is seeking feedback from the Board on acceptable levels of risk and what characteristics of the stock or the assessment would cause the Board to accept a higher or lower level of risk. Given that this rough draft of the decision-tree was created with only one example species, this is a small component of the final tool that will be the end product recommended to the Policy Board. Board members should consider if this framework is appropriate for accounting for risk and uncertainty in the Commission process.





**30% Probability of Being at or Below F Target**

**40% Probability of Being at or Below F Target**

**50% Probability of Being at or Below F Target**

**60% Probability of Being at or Below F Target**

**75% Probability of Being at or Below F Target**

Management Uncertainty

Socio-economic

Ecosystem

Climate

Habitat

# Atlantic States Marine Fisheries Commission

## ISFMP Policy Board

February 8, 2018  
10:15 a.m. - 1:15 p.m.  
Arlington, Virginia

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*J. Gilmore*) 10:15 a.m.
2. Board Consent (*J. Gilmore*) 10:15 a.m.
  - Approval of Agenda
  - Approval of Proceedings from October 2017
3. Public Comment 10:20 p.m.
4. Update from Executive Committee (*J. Gilmore*) 10:25 a.m.
5. Review and Consider Commonwealth of Virginia Appeal of Amendment 3 to the Atlantic Menhaden Fishery Management Plan (*T. Kerns*) **Final Action** 10:30 a.m.
6. Review and Consider the Climate Change Working Group White Paper (*T. Kerns*) **Final Action** 11:30 a.m.
7. Habitat Committee Report (*L. Havel*) **Final Action** 11:50 a.m.
  - Review and Consider Climate Change Gaps and Recommendations Report
  - Review and Consider Submerged Aquatic Vegetation Policy Report
8. Lunch Break 12:00 p.m.
9. North Atlantic Right Whale 5-Year Review and Re-initiation of Endangered Species Act Section 7 Fishery Biological Opinion (*M. Asaro*) 12:20 p.m.
10. Review and Consider Approval of 2019 American Shad Stock Assessment and Peer Review Terms of Reference (*J. Kipp*) **Action** 12:50 p.m.
11. Bureau of Ocean Energy Management Update Regarding Renewable Lease Status and Future Leasing (*B. Hooker*) 1:00 p.m.
12. Review Non-Compliance Findings, if Necessary/Other Business **Action** 1:10 p.m.
13. Adjourn 1:15 p.m.

The meeting will be held at the Westin Crystal City, 1800 Jefferson Davis Hwy, Arlington, Virginia; 703.486.1111

# MEETING OVERVIEW

## ISFMP Policy Board Meeting

Thursday February 8, 2018

10:15 a.m. -1:15 p.m.

Arlington, Virginia

Chair: Jim Gilmore (NY) Assumed Chairmanship: 10/17	Vice Chair: Pat Keliher (ME)	Previous Board Meeting: October 2017
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, DC, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS (19 votes)		

### 2. Board Consent

- Approval of Agenda
- Approval of Proceedings from October 2017

**3. Public Comment** – At the beginning of the meeting public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

### 4. Executive Committee Report (10:25-10:30 a.m.)

#### Background

- The Executive Committee will meet on February 7 , 2018

#### Presentations

- J. Gilmore will provide an update of the committees work

#### Board action for consideration at this meeting

- none

### 5. Review and Consider Commonwealth of Virginia Appeal of Amendment 3 to the Atlantic Menhaden Fishery Management Plan (10:30-11:30 a.m.) Final Action

#### Background

- Amendment 3 to the Atlantic Menhaden FMP was approved in November 2017 (**briefing materials**). The Amendment established changes to the management of the menhaden fishery including reference points, allocation, quota transfers and the Chesapeake Bay Fishery Cap (Bay Cap).
- Virginia is appealing the approval of the amendment (**briefing materials**).
- Following the Appeal Process (**briefing materials**), Commission leadership reviewed the appeal and determined the appeal should be considered by the ISFMP Policy

Board under criterion 3, incorrect application of technical data for the Bay Cap ( <b>briefing materials</b> ).
<b>Presentations</b> <ul style="list-style-type: none"> <li>• T. Kerns will present a background on the development of the management program as well as a summary of the justification provided in the record for the management board’s action. The ISFMP Director will also present the potential impacts of the appeal on other affected states</li> <li>• Virginia will present their rationale for appealing the decision under criterion 3 for the Bay Cap and provide a suggested solution.</li> </ul>
<b>Board discussion for consideration at this meeting</b> <ul style="list-style-type: none"> <li>• Consider the Appeal of Amendment 3 to the Atlantic Menhaden FMP</li> </ul>

<b>6. Review and Consider the Climate Change Working Group White Paper (11:30-11:50 a.m.)</b>
<b>Final Action</b>
<b>Background</b> <ul style="list-style-type: none"> <li>• The Climate Change Work Group was tasked with developing science, policy and management strategies to assist the Commission with adapting its management to changes in species abundance and distribution resulting from climate change impacts.</li> <li>• In fall of 2016 the Work group met via conference call to brainstorm how to address the Policy Board task.</li> <li>• Throughout 2017 the working group met to continue to develop drafts of science and policy white papers.</li> <li>• In October staff presented a draft of the Climate Change White Paper. After feedback from NOAA Fisheries the white paper was edited.</li> </ul>
<b>Presentations</b> <ul style="list-style-type: none"> <li>• T. Kerns will review the Climate Change White Paper (<b>briefing materials</b>)</li> </ul>
<b>Board action for consideration at this meeting</b> <ul style="list-style-type: none"> <li>• Approve the Climate Change White Paper</li> </ul>

<b>13. Habitat Committee Report (11:50 a.m.-12:00 p.m.) Final Action</b>
<b>Background</b> <ul style="list-style-type: none"> <li>• A report identifying climate change gaps and recommendations has been finalized by the Habitat Committee (<b>briefing materials</b>)</li> <li>• The Habitat Committee has completed a draft of the ASMFC SAV Policy Update (<b>briefing materials</b>)</li> <li>• The 2017 Habitat Hotline Atlantic was released in December</li> </ul>
<b>Presentations</b> <ul style="list-style-type: none"> <li>• L. Havel will present an overview of the Habitat Committee’s reports on SAV Policies and the Climate Change Gaps and Recommendations</li> </ul>
<b>Board action for consideration at this meeting</b> <ul style="list-style-type: none"> <li>• Approve the Climate Change Gaps and Recommendations Report</li> <li>• Approve the SAV Policy Update</li> </ul>

8. Lunch Break (12:00-12:20 p.m.)

**9. North Atlantic Right Whale 5-Year Review and Re-initiation of Endangered Species Act Section 7 Fishery Biological Opinion (12:20-12:50 p.m.)**

**Background**

- In September 2017, new information was made available that indicates the North Atlantic right whale abundance has been in decline since 2010 (**briefing materials**).
- A re-initiation of formal consultation on the fisheries covered by the ISFMP (lobster, bluefish, spiny dogfish, summer flounder, scup, and black sea bass) is required due to the new information regarding the changed status of right whales.

**Presentations**

- M. Asaro will present on the North Atlantic Right Whale Five-Year Review and re-initiation of formal consultation due to new information on the changed status of right whales

**Board action for consideration at this meeting**

- None

**10. Review and Consider Approval of the 2019 Shad Stock Assessment and Peer Review Terms of Reference (12:50-1:00 p.m.) Action**

**Background**

- The next American shad benchmark stock assessment is scheduled to be completed in the summer of 2019.
- The Shad and River Herring Stock Assessment Subcommittee has recommended a set of terms of reference for the assessment and peer-review panel (**briefing materials**).

**Presentations**

- J. Kipp will present the terms of reference.

**Board action for consideration at this meeting**

- Approve the 2019 shad stock assessment and peer review terms of reference.

**11. Bureau of Ocean Energy Management Update Regarding Renewable Lease Status and Future Leasing (1:00-1:10 p.m.)**

**Background**

- The BOEM has 11 active renewable energy leases from MA to NC and is considering additional lease sales in 2018 and 2019.
- BOEM has committed via Northeast and Mid-Atlantic Ocean Plans to coordinate with the ASMFC.

**Presentations**

- B. Hooker will give a brief presentation on the status of current and future leases.

**Board action for consideration at this meeting**

- None.

**9. Review Non-Compliance Findings, if Necessary Action**



**10. Other Business**

**11. Adjourn**

**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
ISFMP POLICY BOARD**

**The Marriott Norfolk Waterside  
Norfolk, Virginia  
October 19, 2017**

These minutes are draft and subject to approval by the ISFMP Policy Board  
The Board will review the minutes during its next meeting

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1. **Approval of Agenda by Consent** (Page 1).
2. **Approval of Proceedings of August 2017** by Consent (Page 1).
3. **Main Motion**  
**On behalf of the Atlantic Herring Section, I move the Commission to send a letter to the New, England Fishery Management Council to establish a Working Group with the goal of improving communication between the two bodies** (Page 4). Motion by Ritchie White. Motion Amended.  
  
**Motion to Amend**  
**Move to amend to include to provide a permanent non-voting seat to the New England Fishery Management Council on the Atlantic Herring Section** (Page 7). Motion by Eric Reid; second by Ritchie White. Motion carried (Page 7).  
  
**Main Motion as Amended**  
**On behalf of the Atlantic Herring Section, move the Commission to send a letter to the New England Fishery Management Council to establish a Working Group with the goal of improving communication between the two bodies and to provide a permanent non-voting seat to the New England Fishery Management Council on the Atlantic Herring Section.**
4. **Move to approve the recommended changes to the CESS Membership requirements in the ISFMP Charter as modified to reflect the Policy Board discussion today** (Page 30). Motion by John Clark; second by Jim Estes. Motion carried (Page 30).
5. **Motion to Adjourn** by consent (Page 30).

**ATTENDANCE**

**Board Members**

Pat Keliher, ME (AA)	John Clark, DE, proxy for D. Saveikis (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
Doug Grout, NH (AA)	David Blazer, MD (AA)
Ritchie White, NH (GA)	Rachel Dean, MD (GA)
Raymond Kane, MA (GA)	Ed O'Brien, MD, proxy for Del. Stein (LA)
David Pierce, MA (AA)	John Bull, VA (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Rob O'Reilly, VA, Administrative proxy
Jason McNamee, RI, proxy for J. Coit (AA)	Chris Batsavage, NC, proxy for B. Davis (AA)
David Borden, RI (GA)	David Bush, NC, proxy for Rep. Steinburg (LA)
Mark Alexander, CT (AA)	Robert Boyles, SC (AA)
James Gilmore, NY (AA)	Malcolm Rhodes, SC (GA)
Russ Allen, NJ, proxy for L. Herrighty (AA)	Spud Woodward, GA (AA)
Tom Fote, NJ (GA)	Pat Geer, GA, proxy for Rep. Nimmer (LA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)	Jim Estes, FL, proxy for J. McCawley (AA)
Andy Shiels, PA, proxy for J. Arway (AA)	Sherry White, USFWS
Roy Miller, DE (GA)	Lindsay Fullenkamp, NMFS

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

**Staff**

Bob Beal	Mark Robson
Toni Kerns	

**Guests**

Heather Corbett, NJ DFW	Jack McGovern, NMFS
Dan Crear, VIMS	Brandon Muffley, MAFMC
Michelle Duval, NC DMF	Derek Orner, NOAA
Lynn Fegley, MD DNR	Chris Wright, NMFS
Ryan Jiorle, VMRC	

The ISFMP Management Board of the Atlantic States Marine Fisheries Commission convened in the Hampton Roads Ballroom V of the Marriott Waterside Hotel, Norfolk, Virginia, October 19, 2017, and was called to order at 9:39 o'clock a.m. by Chairman Douglas E. Grout.

### **CALL TO ORDER**

CHAIRMAN DOUGLAS E. GROUT: I think we've got a quorum; so we're going to start the meeting of the Policy Board. I would like to welcome you all. Before we get into the official agenda items of agenda approval and everything, I want to recognize a couple of Commissioners that this may be their last Commission meeting.

First of all there is Russ Allen from New Jersey. We understand he is retiring, and he has been a very long term member of this Commission; both at the Technical Committee level, I can remember sitting on Striped Bass with him back in Amendment 6 and earlier, Amendment 5. He certainly has moved up into the Policy realm with grace and elegance.

I would like to offer a round of recognition and thank you very much for all the work you've done for the Commission; and supporting the Commission process here, Russ. Thank you. (Applause) While we're on the state of New Jersey, unfortunately I think Tom Baum has already left.

But I would like you all, to please extend our appreciation to the many years of work that Tom has also worked on this Commission, both at the technical and policy level. He's done an outstanding job; and he's been another person that I've worked with for a very long time. We all have; if we can please give Tom a round of applause in abstentia here. (Applause)

Then finally Spud Woodward from the great state of Georgia has indicated that this will be his last meeting as Administrative Commissioner. Obviously Spud has been

involved with us for a very long time; he's been a very eloquent and gracious supporter of the Commission process here.

I will tell you a little bird said that he might come back under another hat; as some other Commissioners have done. But I would still like to recognize Spud for the great efforts and works he's put on through the years. Thank you, Spud. (Applause) Okay, now onto the real business.

### **APPROVAL OF AGENDA**

CHAIRMAN GROUT: We have an agenda before us. There is one item that I've been asked to move up a little earlier; to accommodate some flight schedules that people have. Item 7, is Discuss Recommendations from the Atlantic Herring Section; and I would like to move that Number 7 up between Number 5 and 6. Does everybody have that? Are there any objections to doing that? Are there any other changes to the agenda, modifications, additions that anybody would like to provide? Seeing none; is there any objection to approving the agenda as amended? Seeing none; it is approved by unanimous consent.

### **APPROVAL OF PROCEEDINGS**

CHAIRMAN GROUT: We also have in our briefing packets the proceedings from our August meetings. Does anybody have any changes or additions? Seeing none; is there any objection to approving the proceedings of the August meeting? Seeing none; it is approved by unanimous consent.

### **PUBLIC COMMENT**

CHAIRMAN GROUT: Item Number 3 is the opportunity for public comment for items not on the agenda. I don't have anybody on a list. Is there anybody in the public that has something they would like to bring before the Board that is not on the agenda?

## **UPDATE FROM THE EXECUTIVE COMMITTEE**

CHAIRMAN GROUT: Seeing none; we'll move on to an update by myself from the Executive Committee.

The Executive Committee considered and approved the fiscal year audit. I will tell you it was a very, very clean audit. There were no issues and we approved that by unanimous consent. The next item on our agenda was to consider and continue the need for technical committee meeting weeks; which in the past had been a process that we had put in place to try and make our Technical Committee more efficient.

We had put out a survey to see whether the Technical Committee still felt that that was beneficial; and also our Assessment Science Committee provided us with some recommendations. Essentially we agreed that with the Assessment Science Committee that we should go back to having technical committee meeting weeks; but with some modifications.

We normally in the past had scheduled three meetings right at the beginning of the year. We're going to just schedule the first two meetings; and try and provide the Technical Committees with an idea of which committees are going to actually meet during those weeks. Then we will, as the year rolls on, we'll see if there is a need to have a third technical committee week in the fall; and try and populate that.

It's more current; but still trying to get out as far as we can and provide advanced notice to the technical committees when they're going to work. Also, when we have things like stock assessment data workshops and modeling workshops, while we may not be able to give them specific dates, we're going to give them the times of year that those will be; as far in advance as possible, as much as a year.

Hopefully, that will continue to make our technical committee meetings efficient and effective. Also we talked about our meetings; the Board meetings, the quarterly meetings. As you've probably seen there have been times when we've been kind of squeezed for time; and not having enough time to do all the work that we've had, and we've had to shrink down the amount of time for a Board and we've gone over sometimes.

We wanted to look at any changes that we can make that may help alleviate this squeeze that we've been having. What the Executive Committee decided to put forward, and this was brought forward by the staff just to identify and remind Board members of. First of all, an important part of the process is plan coordinators working with Chairs prior to the meeting weeks to try and determine an appropriate time that will be needed for each meeting during a meeting week.

I think that is a key element in trying to make sure we have enough time to stay on schedule; and yet still provide the Board sufficient time for deliberation on the items. We're going to continue to do these meeting management refreshers with Collette; because as you see sometimes, you know after Collette's meetings it's all fresh in our memory, and things like having everybody speak at least once before anybody else gets an opportunity to speak is fresh in our mind. We follow that. It seems like the farther we go out; we begin to forget some of the things that Collette put forward to us to try and make our meetings more efficient on this.

We're going to continue to have that and try and have it as frequently as possible; especially when we have turnover in Commissioners, because they all need to be refreshed; both from the Chair's standpoint and from the general Commissioner and all Commissioners need to be aware of these things. We think that will help move things along.

We're also going to have the consideration, now that we have 27 species that we're managing. We might need to have during our February meeting, an extra half day to help provide us with enough time for all the meetings that we have to have during a year to accomplish everything. We'll look at it ahead of time and see if it's needed; if it's not needed we'll still continue with the three day meeting.

But there may be some times in February where we'll have to come in a half day earlier on Monday. The other thing we've found has been helped with the efficiency of our meetings is the use of working groups. We've been using them a lot more extensively in the past three or four years; and it does seem to be helping move the meetings along at a more efficient pace.

Those are the things that we're going to put forward as suggestions and reminders to all Commissioners when we're going through these meetings; to try and make sure we have enough time for all the work we have to do. We also began initial consideration of our Strategic Plan that we need to adopt for 2019 to 2023.

Our current Strategic Plan goes through 2018. The question we're going to have is whether we just want to do some updates to the current plan, or whether we want to have a full rewrite with a facilitated workshop. I think we're going to have discussions in February at our winter meeting; to see if there is a need to go through a full rewrite, or whether there are just some modifications to the current plan we have, and strategic plan structure.

Start thinking about that between now and February; and take a look at our Strategic Plan, and see if you think we need a full rewrite or whether we just need to make some tweaks to essentially just adjust the course we're moving on. We also had a discussion about the nomination process for officers.

We're going to bring back a white paper to clarify how Commissioners get contacted during

this process; whether it's through each Commissioner being contacted individually by e-mail, or whether we go through the Administrative Commissioners and have the Administrative Commissioners work with their fellow state Commissioners to develop a consensus state recommendation for the nomination process for Chair and Vice-Chair.

Also, a question that has been brought up is who is eligible. The charter is not that clear on it. Clearly any Commissioners are, but are permanent proxies? Are they eligible to be Chair and Vice-Chair? Are ongoing proxies eligible to be Chair and Vice-Chair? The staff is going to bring up a white paper with discussions about that with options on that. We'll discuss it at the Executive Committee; and then bring forward any recommended changes to the current policy that we have for nomination process at our February meeting.

#### **UPDATE ON NON-COMPLIANCE DECISION AND MEETING WITH SECRETARY OF COMMERCE**

CHAIRMAN GROUT: Also, we had and finally we have a discussion about our upcoming meeting on Thursday; that the Commission leadership is going to have with Secretary Ross, to talk with him about the impacts of his, for the first time not agreeing with a Commission out-of-compliance finding.

Jim Gilmore, myself, and past Chair Robert Boyles are going to meet with him along with Bob Beal. Our primary purpose there is going to be talking to him about what we can do to protect our process that has been so effective over the past 76 years that we've had this compact; and the 24 years since the Atlantic Coastal Act. That is what was discussed at the Executive Committee. Are there any questions about what I've presented here? Dennis Abbott.

MR. DENNIS ABBOTT: At the end we did discuss reviewing our appeal process and conservation



equivalency, and it would be brought up at the next meeting.

CHAIRMAN GROUT: Yes, you're right. I was negligent in not putting that forward. Thank you very much. Are there any other questions?

**DISCUSS RECOMMENDATION FROM THE  
ATLANTIC HERRING SECTION ON  
NEW ENGLAND FISHERY MANAGEMENT  
COUNCIL PARTICIPATION IN THE  
ATLANTIC HERRING MANAGEMENT**

CHAIRMAN GROUT: Okay, thank you very much and we will now move on to the Item 7; Discuss Recommendation from the Atlantic Herring Section on New England Fishery Management Council Participation in the Atlantic Herring Management. Toni, are you going to start us off, and then I believe there will be a motion from the Herring Section that Ritchie White will bring forward?

MS. TONI KERNS: If you recall at the last Policy Board meeting the Policy Board tasked the Atlantic Herring Section to make a recommendation to the Policy Board regarding how we wanted to involve the New England Fishery Management Council in ASMFC Atlantic Herring management. The Council had requested through the Northeast Regional Coordinating Council a seat on the Atlantic Herring Section.

Due to the fact that it is a section and not a board, the Charter and the Compact do not allow for a voting seat for councils on sections. In order to have a voting seat, you would need to change it to a management board. The council could participate in the section in a nonvoting capacity on the section. That went back to the Herring Section, and they had a discussion and they brought forward a motion that I think Ritchie is prepared to explain to the Board.

MR. G. RITCHIE WHITE: Toni, do we have that motion, so we can put that up on the board?

Following up on what Toni outlined. The Section had lengthy discussions and clearly, we did not take a vote, but there clearly did not seem to be a majority that wanted to change from a section to a board. We presently have a seat that was voted in for a council member as a nonvoting member for the Amendment 3 process in the Council.

**There is a representative there at this point. I will read the motion. I understand there is going to be an amendment or a substitute motion to this. I would like to speak to that if that is made. On behalf of the Herring Section, move the Commission to send a letter to the New England Fishery Management Council to establish a working group; with the goal of improving communication between the two bodies.**

CHAIRMAN GROUT: That motion is a Section motion so it doesn't need a second. Is there discussion on this motion? Eric Reid.

MR. ERIC REID: I'm in the Section. As a Commissioner this motion doesn't do it for me. As a New England Council member it doesn't do it for me. Frankly, I'm the New England Council liaison to the Mid-Atlantic and I'm a bridge builder; or maybe I'm in bridge maintenance, I'm not really sure.

But it doesn't do it for me in that capacity either. I would like to express my appreciation to the seven members of the Section over the last couple of days for indulging me in my conversations. To the other 12 Board members who are not Section members, I appreciate you all hearing me out too. With that I have a motion to amend.

Thank you, Toni, for helping me out on what it needs to say. **I move to amend to include: To provide a permanent nonvoting seat; and actually it should probably say to the New England Fisheries Management Council, on the Atlantic Herring Section.** I have plenty of rationale. If I get a second I will try to be brief.

CHAIRMAN GROUT: Ritchie White seconded it. Go ahead and provide your rationale, Eric. Then I'll go to the second.

MR. REID: Thank you Mr. Chairman, Chairman White for seconding that. I really appreciate that. We had a lot of discussion at the Section; but I just want to make a couple of points. What this motion does, or what it does not do, it does not dilute the composition of the current voting members of the Section.

What it does not do is it does not alter our management methods and measures and capabilities that we already have in place. What it does do, it brings another informed stakeholder to the table. It does enhance the Section's ability to make educated decisions; and it does promote our involvement with our New England Fisheries Management partner, which in my opinion is sorely lacking.

CHAIRMAN GROUT: Ritchie.

MR. WHITE: I seconded this, because the discussion at the Section concentrated on going from a Section to a Board and having the Council person having voting rights. Also, going to a Board would add seats; National Marine Fisheries Service and U.S. Fish and Wildlife Service.

Since the Section already voted to have a seat on the Section for during Amendment 3, I believe that the Section would support this; because they've already said it was worthwhile having the Council to have some input to the Section during that process. Extending beyond that I think makes sense. That was my reason for seconding.

CHAIRMAN GROUT: I have Adam Nowalsky and then Tom Fote.

MR. ADAM NOWALSKY: Let me begin by stating that I have no objection to either of these. I do want clarity though. With this motion to amend, we would be doing both establishing a

working group to improve communication and simultaneously creating that permanent nonvoting seat. It would seem that if we create that permanent nonvoting seat, by nature of that that would hopefully address a lot of the communication issues that are occurring. I could be wrong on that but I would like to hear clarification about if in fact we're still going ahead with the working group and doing the seat simultaneously; or if we could achieve the needs of the Council and the Section by just adding that seat.

CHAIRMAN GROUT: Eric, do you want to respond to that as the motion maker?

MR. REID: I think we need to have a conversation with New England. As you all know ASMFC and the Mid-Atlantic, they have these meetings; you know the circus is in town. We have joint meetings; we have meetings of the Committees of a whole. There is a pretty good relationship there.

I don't think the same thing exists between the Commission and New England. I don't know, maybe Bob Beal will help me out on that. But I think that we need to do both. We've got a lot of big issues as councils and commissions coming ahead of us. Other than using a couple of God bless your hearts, and we all have to hang together or hang separately.

I think the more cooperation we have between the three entities the better we're going to be. When we start talking about things that affect us all, climate change, trans-boundary stocks, alternate energy like wind. I really think we need to develop every relationship we can. The working group would help with that. I would rather see this motion pass and then we combine the two and make the main motion something that combines the two.

CHAIRMAN GROUT: Tom Fote, and then I have Pat Keliher and Dave Borden on my list.

MR. THOMAS P. FOTE: Like Adam, I have no problem with either one of these motions; but I really support the top motion. I hope Eric will work with me to find out some solutions; because I think he's right. You know the species that we jointly manage creates all kinds of problems with Mid-Atlantic; but we're at the meetings together.

I mean one of the greatest times I was upset with the New England Council is what they did on winter flounder. Here we have a strict conservation measures in place, and utilizing my boats that fish on the same fish when I get to the ocean, 5,000 pound trip limits when we were basically having 50 pounds for our pound nets and two fish for our recreational sector.

In ten trips they may catch more fish than the guys do in the five years. We need to have somebody from the Commission from the southern areas to basically be on the New England Council to basically express those concerns. They don't have to be voting members. But on boards that we don't, because we don't jointly manage winter flounder, we don't jointly manage herring and things like that.

It's a good place to have people that are outside the area basically looking for the other states that are below; like New York and New Jersey that sit on some of those fisheries. That's what I'm hoping the first part does; opening up that dialogue. As Eric is a bridge builder, maybe we'll be able to get somebody from New York or New Jersey to sit up there when they're doing winter flounder.

CHAIRMAN GROUT: Pat Keliher.

MR. PATRICK C. KELIHER: As the maker of the original Section motion, I certainly support the inclusion of the nonvoting seat language that Eric has brought forward. It's important to remember that the New England Fisheries Management Council has asked for a voting seat. Mr. Chairman you at the last two

meetings have clearly expressed your desire to move in the direction from a Section to a Board; but the tea leaves certainly were not aligning yesterday in that conversation.

I've come a long way in that thinking from the first time we discussed this at the Policy Board, and in yesterday's conversation. I would support, frankly, moving in the direction of creating a Board, an Atlantic Herring Board here at the Commission; after having a lot of thought and talk. Eric is right.

We don't want to be in a situation of further divide between this body and the New England Fisheries Management Council. I think we've got a lot of important work to do. I think having all of our partners around the table understanding what the issues are, is very important. At this time we're not obviously moving in the direction of creating a Board.

I think this is the right direction to go at this time. Hopefully we as members of the New England Fisheries Management Council can clearly articulate why we're doing this now. A working group can further improve the communication; and we're all moving forward with the same goals.

CHAIRMAN GROUT: Dave Borden.

MR. DAVID V. BORDEN: I just want to quickly echo the support for both motions; and just note as an example. Doug Grout appointed me as representative on the New England Council Habitat Committee on Corals. There are a lot of you in the room that I've spoken to about coral's potential impacts on both corals and different fisheries. I've been able to; in that capacity I've been able to take that message back to the New England Council.

That's been a really important linkage between this body and the New England Council. I support the motion to amend. I support the underlying motion; and just would conclude by saying there are major issues we're all going to

confront in the future, not the least of which is wind power and the potential impacts on all of our fisheries. We need to have more of a unified voice on the part of all the different management agencies.

CHAIRMAN GROUT: Further discussion? **I would like to try something first. Is there any objection to the motion to amend at this point? Seeing none; the motion to amend is approved by unanimous consensus.**

CHAIRMAN GROUT: **We now have the main motion on the board. Is there any objection to the main motion as amended? Seeing none; the main motion is approved by unanimous consent.**

MR. FOTE: Doug, do you have to read it in?

CHAIRMAN GROUT: Okay, I'll be glad to read it in. We'll take back that approval by unanimous consensus. Oh, is there going to be a change to it? Is it okay? **On behalf of the Herring Section, move the Commission to send a letter to the New England Fisheries Management Council to establish a working group; with the goal of improving communication between the two bodies, and to provide a permanent nonvoting seat on the Herring Section. I'll try it again.** Yes. Eric Reid.

MR. REID: And provide a permanent nonvoting seat to the New England Fisheries Management Council, thank you.

CHAIRMAN GROUT: I bet I've got to read it all over again. On behalf of the Herring Section, move the Commission to send a letter to the New England Fisheries Management Council to establish a working group; with the goal of improving communication between the two bodies, and to provide a permanent nonvoting seat to the New England Fisheries Management Council on the Atlantic Herring Section.

**Is there any objection to this motion? Seeing none; the motion is approved by unanimous consent.**

#### **REVIEW OF THE RISK AND UNCERTAINTY WORKGROUP PROGRESS**

CHAIRMAN GROUT: We will now move on to Item Number 6; Review of the Risk and Uncertainty Workgroup progress. Jason McNamee.

MR. JASON McNAMEE: Thank you for giving us a little time. Sorry, my name is Jason McNamee; I work for the Rhode Island Division of Marine Fisheries. Bob had mentioned earlier, we were originally hoping to have a workshop during this annual meeting. But as the agenda sort of evolved, we were getting more and more crunched for time.

What we decided was we would punt it until February; so that we could do it justice, give it enough time. But we wanted to still talk a little bit about you and remind you that we're out there in the ether, working away; so I've got a quick presentation for you. Since spring of 2016, the working group has been developing a Commission Risk and Uncertainty Policy.

At the annual meeting last year, you reviewed a white paper that had a policy statement in it. It had a set of goals; and then some potential decision tree questions and the decision tree concept I will talk a little bit more about in subsequent slides. But what you saw at that time was a bluefish example; and you have that white paper I think is in your meeting materials, if you want to go back and check that out.

What you had asked at that time was for us to go back and develop a more comprehensive example. You thought striped bass might be a good one to work on. We went ahead and did that. We met as a working group, and also brought it before the Assessment and Science Committee a few months ago, or maybe a month or two ago.

As I noted, we have rescheduled that workshop for February of next year. Quickly, I'll tick through the goals again so you can remember why we're doing this. The idea is to adequately account for uncertainty at all levels of the Commission's management process. The idea with doing that is to maximize our informed decision making. We want to consistently manage Commission species. We want to treat all of the species that we manage consistently; to the extent possible.

We want to provide transparency in the Commission's risk management process; and there was a lot of talk about flexibility. We have been very cognizant of that and have incorporated flexibility into the Commission's version of a risk management process. One highlight from the workshop the Risk and Uncertainty Working Group from our last workshop. This was seen, it was Lynn Fegley who highlighted this. Adam Nowalsky also highlighted this as an important characteristic of the Risk Policy. But they saw it as a good tool for communicating what we're doing and how we're making decisions to constituents. Not only is it a valuable tool for us as we're making decisions at the board level; but also for going back home and talking about what exactly it was that we did, and why we did it.

A comprehensive risk and uncertainty policy would provide guidance on a range of issues; and that would be from choosing biological reference points. It sort of came up in that context this morning. Setting quotas for data-poor species, all of those sorts of things this can be applied to. These are long-term goals. They would require a lot of time and effort to develop in this full comprehensive manner.

What we recommended is that this policy development and deployment be implemented in phases. Our first step has been to use it to set acceptable risk levels when determining quotas for data-rich species. How are we meeting these goals? The goals of the policy will be achieved through a structured decision

making process. This is that decision tree I was referring to earlier.

The way we would implement this is to add stepping through our decision tree as a term of reference; and this would be both for benchmark and update assessments. Then projections for quota setting will be developed using the final results from that exercise. One nice little tool that gets developed along with this is this matrix.

It's a species matrix. What it has in it is all of this information. It is quite dense. You can't read that but you see that. There is in fact a spreadsheet that exists with words on it; so you can go back and check that out as to what those words actually say. But it's kind of one-stop shopping for all of the information for that species.

It's probably valuable beyond just this risk policy exercise; but your staff can also use it as a quick reference to remind them. I'm sure they all work on multiple species. How will we do this? The tree, the decision tree will be broken into segments. Using that matrix we just showed you, the Technical Committee will work through quantitative decisions; things like is stock status known, is overfishing occurring.

There are these tiers within the decision tree; and that top one are these more quantitative decisions, and then the Board will also be a part of this. You will work through the qualitative decisions. These are things like socioeconomic concerns, is the management uncertainty accounted for? A lot of these currently are qualitative; but could evolve to be quantitative.

But these would still be within the purview of the Board. This is where the Board gets that flexibility to kind of move the ball up or down; as you think is warranted. The Technical Committee, as we do this, we'll have the Technical Committee go through the whole thing; so you can sort of see it. You'll have a template to work from.

But in the end those final decisions come down to the Board and that is where you get to include that flexibility. We're going to have a workshop in February. The Board workshop will be set up to work through an actual example; it will be like a role playing game. We want it to be interactive. The Technical Committee, in this case when we say Technical Committee we're talking about me, Shanna, Max, Katie, I think will probably be the folks that kind of work through the template version. Then we'll have the Commissioners deliberate on the qualitative portion. Then you'll have something that you can kind of compare and contrast in the end. If that wasn't enticing enough, and for those of you who are fans of daytime T.V.; you might remember the Price is Right and the game Plinko; it kind of works like that. You know you kind of balance right and left as you're going down the questions.

For those who don't know what that is and have questions; Adam Nowalsky is now our resident expert on Plinko, so you can ask him afterwards. Just some parting questions for you all. Do you have any input on the workshop structure? We were thinking about having you kind of set up with either an online, like a Survey Monkey poll or something; where you can actually hit a button and cast a vote for a risk level.

That way we could put it up on a board and we can kind of see where we end up. That would make it really interactive. But if someone has a different idea we would like to hear that. Are there any visual representations that would be useful? What else would you like to see during that workshop, and any other questions that you might have that we've not thought of yet. With that I will take any questions.

CHAIRMAN GROUT: Okay are there any questions for Jay or any suggestions, answers to the questions that he has for you? Ray.

MR. RAYMOND W. KANE: I'm new to the Commission, and for years what I heard at this

table was we're about managing sustainability of species. I like the direction that this workshop wants to go; when you start talking about socioeconomic impacts. I think for too many years management has disregarded that element; including harvesters and processors. It's just a comment, I like the direction.

CHAIRMAN GROUT: Are there any other questions or feedback for Jay? David.

DR. DAVID PIERCE: Jason, to what extent will this endeavor be influenced by what the federal management councils have done regarding their risk procedures? It seems that in most cases those procedures would tend to override whatever we come up with. I am trying to better understand the degree to which we're going to have the ability to perhaps go in some different directions. Will we be constrained by what the federal government requires, what the Magnuson Act requires, and what National Standard Guidelines require?

CHAIRMAN GROUT: Jay.

MR. McNAMEE: Yes excellent question. In fact that question came up at the last Board meeting as well. We discussed it explicitly. I'll say two things about that. The first is I think that's one of the reasons that we migrated to striped bass; as it's a Commission managed species as our first example, while we continue to kind of sort that out, because it is complicated.

But in the end, if I remember the workshop discussion correctly, we talked about this. There are still aspects that aren't necessarily directly controlled by that federal process; that we could still look at and tinker with. The first one that pops into my head is management uncertainty; in particular for the Mid-Atlantic species. That is a source of uncertainty that actually comes back to your Monitoring Committee, which is a joint committee. But I think there is room with the management uncertainty to increase or decrease. There are

aspects, it becomes a smaller, a subset of the questions, but still there is relevance for those jointly managed species.

CHAIRMAN GROUT: Any other feedback? Adam.

MR. NOWALSKY: I'll just offer that again as Jay highlighted, our initial work with this would be for a Commission managed species only. We did feel through the working group that there may be an opportunity to work with partners at the federal level; as we put together our Risk Policy.

Should we go through the exercises and start to see differing results from what we're seeing at the federal level, we felt that would put us in a better position at the Commission to make that argument; why we feel an outcome could be different, and then go ahead and potentially affect change in the policies that generate the outcomes in quota driven species at the federal level. We think it could be helpful to the Commission moving forward.

CHAIRMAN GROUT: Further questions, input? Do you want to have a Survey Monkey poll so that we can vote electronically? Seeing none; I think you have the freedom to do whatever you think would help us out in understanding this the most.

MR. McNAMEE: That would be a giant Plinko board in the back and we'll have some fun.

CHAIRMAN GROUT: Sounds good. All right thank you, Jay, I appreciate it. We look forward to the workshop at our winter meeting.

**DISCUSS NONCOMPLIANCE IN THE CHARTER AND PARTY BOAT SECTOR**

CHAIRMAN GROUT: Now we're going to move on to Item Number 8; which is Discuss Noncompliance in the Charter and Party Boat Sector. Toni.

MS. KERNS: Recently we have seen several violations in the for-hire sector; in particular there have been a couple of cases out of Montauk dealing with black sea bass, where there have been large numbers of black sea bass being caught. In some cases states have had difficulties in charging either the passengers or the for-hire captains for these violations.

One of the Commissioners asked if we could have a discussion about these violations and ways that we can help prevent them; or have better compliance in the for-hire sector. I did sit down with the LEC earlier this week; and we had a discussion on this issue. I'll provide a bit of a summary; and then I'll have Mark fill in where I may or may not have left any information out.

But there are a couple of states, Maine, South Carolina and Delaware that do have language that allows them to prosecute captains in the for-hire sector when there are violations, and they've had success in the Courts in doing so. For Massachusetts they have language in their regulations that allow them to do, so they haven't prosecuted through the Courts but they have done, I think an arbitration where they've had success in finding a for-hire captain in violation when there have been large egregious noncompliance on their vessels.

The LEC said that it would be very helpful if there was language within each of the states that held the captains accountable for the violations on their boats; because it makes it difficult for them to do their jobs when that language is not there. They can bring a case to Court, but if they have no regulatory authority backing them, then those cases often don't make it anywhere. Mark, were there other pieces that I've left out? Does that cover it? I guess the one other thing that NOAA Fisheries, under the for-hire permit, and I believe I'm going to say this correctly. Lindsay you can correct me if I'm wrong. But the captain is responsible for all regulations that the

fishermen are fishing for under their permit; and their permit can be removed, and the captains can be held accountable for the federal permits. It's only for federal for-hire vessels. I am not sure if they actually have accountability for their individual fishermen, and they do that through the states. I think that's what Winn had told us.

CHAIRMAN GROUT: Lindsay.

MS. LINDSAY FULLENKAMP: I'm not sure. I don't know.

CHAIRMAN GROUT: Mark.

MR. MARK ROBSON: Yes, Toni that is my recollection of the discussion too that there were some cases where they were able to use the federal regulatory process to make a case; in addition to using the state side of it if it was a federal permit holder.

MS. KERNS: The LEC did also talk about that some states do have some measures that they've asked for vessels to do; things like having each passenger have their own cooler with their name on it, putting the regulations on the boat for each fisherman to have, having measuring sticks and other information available to them for individuals to know what the regulations are and be responsible for those regulations. Those certainly do help with enforcement; but having this regulatory language is something that they said would help them a lot more and overall good.

CHAIRMAN GROUT: Okay, discussion about this issue? I have Adam and then Roy.

MR. NOWALSKY: Regarding the question of what the actual intent is under 648.145 Paragraph C. Sea bass harvested by vessels subject to the possession limit with more than one person aboard may be pooled in one or more containers. Compliance with the possession limit will then be determined by dividing the number of black sea bass on board

by the number of persons aboard other than the captain and crew.

If there is a violation of the possession limit onboard, carrying more than one person, the violation shall be deemed to have been committed by the owner and operator of the vessel. That's what the language states. There is similar language for scup and summer flounder as well.

One of the things that I have asked the Service to go back and look into is the administrative record on this particular regulation; to determine, given the fact that this element of violation shall be deemed to have been committed by the owner or operator occurs in the same three sentences that talk about the pooling of fish, which does not commonly occur on your larger for-hire vessels, your party boats if you will.

There is no pooling that occurs there. I am looking for some clarification; what the original intent of this was. I hope to have that at some point in the future, because I think that's really one of the issues here is on a six-pack vessel where you have six people sharing X number of fish in one container that is often provided by the vessel. That's a very different scenario than when you have a hundred people on the boat, two to three crew members all going ahead, putting fish in their own individual containers; and essentially accepting their own responsibility by virtue of putting them in their own private property that way. I'm hopeful to get some clarification of that moving forward from the Service. Hopefully we can go ahead and use that to inform the states decisions on what the intent is at the federal level moving forward.

CHAIRMAN GROUT: Roy Miller.

MR. ROY W. MILLER: I was just going to add something to this discussion concerning noncompliance. One aspect that hasn't been brought up is noncompliance with MRFSS



Surveys. We've had a longstanding problem in our state; I'm embarrassed to admit, of refusal to allow MRFSS surveyors on for-hire vessels.

That's a problem that I don't know as ASMFC necessarily needs to deal with. But it's an internal problem; it's a public relations and education outreach problem. But it is part of the noncompliance mix. If observers can't get on the boat then there is no opportunity until the boat returns to port and the participants are unloading. There is no opportunity for enforcement at sea.

CHAIRMAN GROUT: Ritchie White and then Jim Gilmore. Jim.

MR. JAMES J. GILMORE: There have been recently some violations that have occurred in Long Island; and we've heard a lot of anecdotal ones about it. I've gotten some suggestions from other states about that we don't have that requirement in regulations where the party boat captains are responsible.

You heard Captain Forsberg yesterday say that maybe we need to look at this by coming up with solutions other than maybe the black and white of instituting a requirement that the captain or the vessel owner is responsible. I think that is a better approach than just having us go into the party boat captains are responsible; mainly because we already have laws –and maybe it's unique to New York but I doubt it – on the books that we essentially the next part of it is you can have as many rules, regulations, or laws.

You go to the Courts and if the Courts don't support them it is useless. We already have with our free fishing license in New York, the D.A.s and the counties don't support that. They think it's free so anybody that writes a ticket on that they throw it out; because it's free, so how could they be violating something that's free?

Then you get into other things even with safe harbor or whatever. We have brought good

cases; we have black and white rules on that. Particularly in the east end towns it's been thrown out of Court; just because they are not friendly towards what we do in terms of management. That can stem back to some of those management measures.

I think maybe having this more blanket that all the vessel captains are responsible may not really solve the problem. Maybe looking at some alternatives like marking coolers, things of whatever that helps to alleviate the problem might be a better approach than going into regulations or laws.

CHAIRMAN GROUT: I have Mark Alexander and Dan McKiernan.

MR. MARK ALEXANDER: I just wanted to follow up on a comment that Roy Miller just made about compliance with MRIP. The other aspect of that is compliance with the for-hire telephone survey. We had a party charterboat operator kind of make an offhand comment that he never answers the phone when his caller ID says QuanTech or whoever does that now.

We followed up and got some information. I was just curious what the compliance rate was with the for-hire survey; and it was whether it's actual refusal to talk or they just don't pick up the phone. But the compliance rate was pretty low. We were kind of astounded by that. I think that is something that maybe should be considered as well.

CHAIRMAN GROUT: Dan.

MR. DANIEL MCKIERNAN: I feel it's necessary to explain a few details of the case in Massachusetts; because it was attributable to the same boat that was in New York. This was not the first instance that this occurred. There were circumstances where the captain was highly disrespectful to the police officers.

The police officers felt that the clients were being coached to not comply. We had instances of abandoned coolers. The real problem is that if the captains say, well I can't enforce this, but if the net result is as soon as the police officer shows up coolers are abandoned. It's completely unacceptable.

What we did was we threatened to suspend his permit through the adjudicatory hearing process. He hired an attorney and we worked out an arrangement; probation for two years. In those two years he had to hire two extra staff to police the clients, and coach them to comply and to look into their coolers.

In addition they put the rules on the ticket and other things like that. But after a half a season he concluded that he was losing too much business; and so he left, and he didn't come back the second year. There is a need, as Jim says; maybe this can be accomplished with some other rules. Maybe it is state specific rules. But we have to prevent situations where clients can simply walk away from their fish and nobody is accountable.

CHAIRMAN GROUT: Bob.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Hearing Mark and Roy talk about the refusal rates for party and charter boats. You start to think that these guys also have to fill out a VTR form when they get back to the dock for the federally permitted boats. If the captains are saying they're not really sure what's in the coolers, so how accurate is the VTR data?

Then if there are a lot of refusals for the MRIP program, it seems like the, I don't know maybe I'm missing it, but I'm now starting to be concerned about the overall accuracy of for-hire reporting from some of these bigger vessels. But maybe I'm missing it.

CHAIRMAN GROUT: Yes that is a concern. I'll tell you, Mark, we a long time ago at least for the party boats, started a process where we

said we want to exempt you from the phone call. They felt they were double reporting; because they already have, they fill out the number of passengers on the VTR. What we said, well we'll collect the VTRs from you; rather than having them answer the phone. Because they are required to fill out the federal VTRs in our state; at least all the party boats, they are all federally permitted and stuff. That is the way we got around that and got better compliance with it or cooperation. You know as far as going on the boats. I think that more than likely is local culture, because we're welcome on the boats.

They want us on the boats. I don't know how to address that in individual states where they're having people refuse to allow MRIP surveyors on there. But it is an issue from a data collection standpoint. We also, right now I think it's still voluntary. I don't believe there is a requirement. Like some observer programs for the commercial vessels that you have to take somebody. It's still voluntary on that. Yes that can affect the accuracy of the data.

But on the other issue of how we get enforcement of bag limits. That is something that I think we need to be looking at on a more comprehensive basis, on a state-by-state basis; whether it is holding the captains liable, or something where you're required to have names on the coolers before you can come on the boat so we know whose.

I think it's something that needs to be discussed with the industry, particularly the party boat industry, on how we can make sure that these management regulations, which are designed to make our fisheries more sustainable, can be effectively enforced. I see David.

MR. DAVID E. BUSH, JR.: I was just curious if there was any conversation or discussion on requiring the captains to be responsible for everything that goes on their boat is not something that is altogether a foreign concept. However, when you get into searching through

people's personal property, there are certain legalities there as well.

I don't know if state or federal law allows for any provisions for that for the owner of a vessel. That's why the conversation came up, obviously having them mark their coolers so that they're personally responsible for that and everything that's in it. But I was curious if there is any conversation about that as well.

CHAIRMAN GROUT: At least in New Hampshire the coolers are people's private property that they bring on the boat. But our law enforcement officers do have the authority to check those without a search warrant. It may be different in North Carolina. Dave.

MR. BUSH: Well I guess what I was meaning was is whenever the vessel operator is supposed to fill out his report or whatever, and he's trying to get an accurate count. Folks are bringing stuff over the rail left and right; and sometimes things are missed. You know when they do have that cooler that is way over the limit, and the people want to just shoot off the dock when they see the officer.

You know he's kind of stuck holding the bag there. But he had no authority to go into their cooler and verify what was in it. I'm trying to figure out if there is any sort of legal ground for him to go search through people's personal belongings to ensure that they're actually upholding the regulations.

CHAIRMAN GROUT: Eric.

MR. REID: I worked on a party boat some time ago. I agree with all the comments that are made about having X amount of people and X amount of deck hands, et cetera. But the one thing that was universal was the captain's word was law. Now what I understand is the captain's word is law until maybe there is a problem. Then the captain's word doesn't have to worry about the law.

I don't know if the law of the sea or the Jones Act or something else would play into this as well; but it just seems that that is kind of an odd situation that the captain is in control of everything on his vessel until there is a problem, and then he's not responsible. You might want to look at the law of the sea.

CHAIRMAN GROUT: Adam.

MR. NOWALSKY: Let me preface this by beginning that there is simply no way to condone illegal behavior that goes on, on any vessel. We're all unanimously in agreement here with that; and I'll certainly be the first one to step up and advocate for enforcement of the regulations we put in place.

Whether or not I personally agree with the decisions, I'm here to work to change those things I don't agree with and advocate for compliance at all levels. With regards to the question of having an idea of what goes on. Yes, I certainly think operators and again, we're talking primarily here about larger vessels.

Let's be clear about where the scope of this problem is as we discuss it. Most vessel operators that I know, and having worked on the larger boats myself, instruct their crew not to facilitate the illegal activity; in terms of not cleaning sublegal fish, not cleaning fish over the limit, not cleaning fish for patrons that are out of season. You know not going ahead and facilitating those behaviors.

I'll also offer that with regards to having an idea of the catch that's on that vessel. While I don't think your large vessel operators are sitting in the wheelhouse ticking off every fish that comes over the rail. Most days you have a trip, a steam home to the dock maybe an hour or more, again mates are going around the boat talking.

You have a good idea of the level of angler satisfaction. Let's face it; anglers aren't very good in most cases about keeping their mouths

shut. If they had a good day they're going to brag about it. If they didn't have a good day, you're going to hear about it very quickly on the vessel. While the captain may not know that one guy up in the bow specifically had 11 sea bass and one guy in the stern had 7 sea bass.

He's going to have a pretty good idea that the average catch through the boat was 9 or 10 fish; and allow the creation of a VTR report at the end of the trip that reflects a relatively good idea of what goes on, on that vessel. I just wanted to touch on some of the points that I heard here today; and finally I'll offer, you know we haven't had discussion about what happened at the Summer Flounder, Black Sea Bass and Scup Board last night.

But that Board did put forward a motion specifically to have a working group begin looking at this problem; and going ahead and making a recommendation to that Board about potential ways forward, either through an addendum or other means. We do have that taking place by one of the Boards where this specifically had been brought forth. I would think that that would be useful information for this Policy Board to know that one specific Board is taking action on this. I would hope that that could help inform a wider Commission response if needed moving forward.

CHAIRMAN GROUT: Dan, the state of Massachusetts brought forward this issue. Do you feel comfortable with the thought that there is a working group at the black sea bass level to try and get at some of this? Is this important enough that we start looking at it on a much broader picture; in advance of what comes out of the Black Sea Bass Working Group?

MR. MCKIERNAN: No, I think Adam's point is a good one. I think there is just a general need to really address it, to recognize it and to address it head on. We're planning on some more meetings this winter with boats. We were even thinking about making it almost like a

customized Hassett plan; like every boat is a little different. Okay Captain, you tell us what your compliance plan is, and let's make that a condition of your permits.

When the green cops meet you at the boat they know what to look for and that kind of thing. I think it's great for the conversations happening; because honestly the officers came to us and said there is nothing we can do. There are thousands of pounds on that boat. Nobody is responsible for them? Come on, something has got to be done. I think we're moving in the right direction and I agree with Adam.

CHAIRMAN GROUT: Tom.

MR. FOTE: About 20 years ago I'm fishing on the beach in Island Beach State Park in the middle of November without about nine other guys. This pickup truck comes running down the beach; and basically is running in the water, chases us all back about 20 feet, because he almost ran us over.

Basically, we got a little annoyed. On the way back, because we have courtesy patrols on the beach to basically try to tell drivers how to drive on the beach. He comes back and he basically almost hits us again. The guys were really getting upset they go and they say, oh you let it go. The guy went home and killed two of his kids when he got home. He was going out of his mind.

Nowadays with the crazies out there, when I tell people on the water. You're not law enforcement. You don't carry a gun; especially in New Jersey there is a no carry law. It's not your job; get on the phone and call. I think with everything that goes on nowadays, it gets very hard for anybody to be law enforcement and enforce rules and regulations.

But we do have peer pressure and anglers that do that. When they lose their trust in the regulations they would basically rat on each other and basically do that. The problem is that

trust in the regulations has fallen apart. No longer do the anglers start giving another angler a hard time about breaking the rules; when they don't trust the rules themselves. It's a sad situation. That's what I see happen the last couple of years.

I'm always fearful of telling people to try to enforce the law. That's not our jobs, and especially with people out there the way they are now. I always say get on the phone; call a law enforcement officer. Make sure they come down. I give that to all my associations, all the clubs that I basically supervise. I know if I had done something more I might have been dead at that day.

CHAIRMAN GROUT: Okay, I think we've had a very good discussion on this. It sounds like a Black Sea Bass Working Group there will be a continued discussion on this. I appreciate you bringing up the topic and I'm sure there will be further conversation about this in the future by the Commission.

#### **DISCUSS WHITE PAPER FROM THE CLIMATE CHANGE WORKING GROUP**

CHAIRMAN GROUT: The next item on the agenda is the White Paper from the Climate Change Working Group.

This is something that I tried to put together a couple of years ago when I first began Chair. I think we're at a position that we need to start looking for ways for us to adapt our management and our science to consider these changes in environment that are occurring in some areas; and impacting some of our species.

The intent of this, we have a White Paper that the Working Group has brought forward. We're going to give you an overview of it at this meeting; and give you a chance over the next two months before the February meeting to sort of chew on this, see what you think about it.

The intent would be this would be something that we would give to our management boards; as sort of a list of tools that they could use if they find that there is evidence that your management and the science is being impacted by changes in the environment. As I said, we're going to give you an overview and then hopefully at the February meeting, if we're comfortable with it, we'll approve it as a formal document of the Commission that the various boards can use in their management process, if they see a need. Toni.

MS. KERNS: The draft White Paper was included in supplemental materials. I will note that one member of the Working Group through a Policy Board Commissioner had asked for some additional revisions to the first draft that we had of the White Paper. Those comments came in after the deadline; so if they're still not addressed, and Chris I'm going to call you out just to say if we didn't address any of your comments from the first draft to what was included on the supplemental material, please raise them today so that we can address those concerns.

I'm going to skip this first slide, because Doug has already gone over that and move right in. The White Paper talks about a stepwise approach in addressing these issues. Carrying out effective management strategies in facing climate change can be very complex; due to all of the different elements that we are considering in these adaptive climate change environments.

Looking at this in a stepwise approach may make it seem a little bit less daunting. The first step is really defining and planning a purpose and scope. Just clearly articulating existing management goals, identifying our management targets, and specifying the timeframe that we want to address these issues. Step 2 is assessing climate impacts and vulnerabilities. This really can come from our TCs, our Assessment Science Committees, and our Management and Science Committees.

It just helps us understand the climate vulnerabilities; and that's crucial for designing effective adaptive management strategies and the specific components on the vulnerabilities exposures, sensitivities, and adaptive capacity of these fisheries. Then that provides a useful framework for linking actions to actual impacts to the fisheries themselves. Step 3 is Review and Revise the Management Goals and Objectives. Because our goals serve as the basis for our strategies and actions that we take; they should be climate informed and forward looking. Reevaluation of goals and objectives may either validate their continued relevance or indicate that there is a need for change or modification to those goals.

As you can see here that you can continually reassess Step 2 and 3, as these climate change vulnerabilities change over time. Step 4 is identifying the possible adaptive management options. The working paper does look at a couple of possibilities for the Boards, but there are others out there.

What possible approaches are there for reducing key climate related vulnerabilities, or taking advantage of new emerging opportunities? This is the stage where a broad array of alternative strategies and actions can be identified; with particular attention to thinking outside of the box and crafting possible management actions for the Boards to address.

Step 5 is evaluating and selecting adaptive management options themselves. The array of possible adaptive options are now evaluated and determined what is the most likely to be effective and serve as a biological and ecological new goalpost; and most feasible from a social and economic perspective. We would do this through our amendment and addendum process.

Step 6 is implementing these adaptive management strategies that are chosen. Successful implementation requires leadership; as well as institutional commitment and

resources from the states, and the Commission as well as depends on engaging our stakeholders and emphasizing the benefits to all of the sectors that utilize our resources.

Then, Step 7 is tracking the effectiveness and the ecological response to the changes that we're making. Monitoring helps to provide a context for understanding the climate change related impacts and vulnerabilities for informing our adaptive management process. Monitoring approaches should be carefully designed to make sure they are capable of guiding adjustments that need to happen in the future.

Step 6 and 7 should be adjusted over time when we see that as we implement new strategies then we should make sure that we're doing the appropriate monitoring to make sure that those strategies are effective. For these stocks that are persistent at low biomasses and not responding to management change. The White Paper addresses two questions that the Management Board should ask.

What is the appropriate harvest level, if any, and how many resources should be committed to continuing the monitoring and the management of that species? We can take a look at this from a couple of different approaches. First we could just do as we do; stay status quo. We would have our harvest strategies that allow landings at a target and threshold  $F$ . We would use historic information with the assumption that the stock would eventually respond to a low  $F$ , and would potentially begin to rebuild.

Here we would not readjust reference points based on the environment. If the biomass continued to decline there would be two options the Board would have. They could continue under the scenario I just discussed with further reductions in  $F$ ; or you could put a harvest moratorium in place for a period of time based on the life history of that species. For stocks where we see an evidence of change in productivity, so like the status quo option we

would have monitoring and management that would be retained at historical levels. The harvest level would be adjusted as reference points are redefined. Here we would adjust our reference points based on the environment as it is changing.

The reference points would target a sustainable yield from a biomass that is much lower than previously targeted. The actual yield would be much reduced from historic levels; leading to a very small fishery, with presumably much fewer participants in it. The approach would also have a rebuilding period associated with it; and the rebuilding period would be reflective of these new reference points, based on this expected lower productivity of the stock.

We also can consider evidence that the stock has low to no productivity; recovery to a sustainable level is very highly unlikely. In terms of how you would address management for a species under this condition, you could put in place a permanent moratorium or harvest could continue until it becomes economically infeasible.

A decision between these options could be based on the confidence in the prediction of no recovery; and consideration of the genetic diversity that is often high at the tail end of the species. It may be more beneficial to protect the remaining genetic diverse stock; or it may be more beneficial just to allow the economic harvest of that species.

That's really a policy decision that each of the boards would need to make. For monitoring we would have to determine what level of monitoring would occur. Would it be an increased level of monitoring, stay status quo, or reduced monitoring? Then lastly is looking at management and monitoring ceasing and harvest does not continue; because it becomes economically unfeasible.

What are the science requirements? Each of the options places great demands on science

for the states and our species technical committees. Several questions would need to be answered before choosing among the options. Up on the board is listed the questions that each of the management boards would need to ask themselves. I won't read them all.

Actual management options that the boards could consider, we could continue on with what we do now. State-by-state quotas; within state-by-state quotas we have tools such as quota sharing, minimum allocations, episodic event quotas, and the board can continue using these tools and products.

We also could consider maintaining state-by-state with a revisiting of the allocations; based on some sort of trigger. The trigger could just be set off of a time period. Allocations could be revisited based on an internal or an external review. That external review could be something like a panel that the board would set up parameters and guidelines; sort of terms of reference, and then that panel would make a recommendation back to the board.

It takes the politics out of the allocation decision and brings it to somebody else to present an option to the board themselves; or we could continue internally as the way we currently proceed, and the boards could revisit those allocations on their own. Allocations could be adjusted based on different types of data instead of using just plain historic fisheries data we could look at fish distribution data. This data could come from surveys; either fishery dependent or independent surveys. We could combine historical and current landings information to come up with allocations; or we could use evaluation approaches to guide us on allocation. Then changing management away from state-by-state, we could look at area-focused management. This is something that we see in Alaska. This would be a large departure from what the Commission does with their single-species management.

But you could say we have the Gulf of Maine, and we would just manage all of the fisheries within the Gulf of Maine and use environmental information, as well as fishery dependent and independent information to guide us on the health of all of the stocks within that area. Allocations could be distributed based on how each of those stocks is doing relative to the changes that we're seeing in the environment.

Every few years you may have to adjust what industry is fishing on; based on the productivity going on. For a little while you might be fishing on winter flounder, and then we see a shift in food resources, so a fisherman would shift to lobstering; that type of idea. We could also look at allocations by timeframe, so seasonal allocations.

An example would be if you remember, ten years ago we used to allocate black sea bass in quarters. You would have a coastwide allocation and then you would divide that up into four pieces; and we had a spring, summer, fall, and winter fishery. One of the downsides of that is that it was still a race for the fishery; and everyone would try to go out and get the quotas quickly as possible once it opened in each quarter.

It is still allowed for some equity for fisheries that were available at different times of the year and different parts of the coastline. Then the document also provides a list of resources to assess how species and environment is impacted by climate. I would suspect that this list of resource will always be evolving as new information becomes available.

In terms of some of the information that the Assessment Science Committee and the Management and Science Committee members made recommendations to for the document, is looking at what types of data are available and where are the gaps that we see? Under climate change we'll need a lot of information to help inform the boards and our species technical

committees on ways to respond to these adapting climates.

First off the Committee is recommending that a term of reference be considered and included if TCs and Stock Assessment Subcommittees think there may be climate impacts on the stock itself. If there are no impacts, if the Technical Committee thinks that there is no impact so there is not enough information out there to support an analysis, then a term of reference should not be included in the stock assessments.

They also recommend that the Commission pull together a coastwide database that summarizes the types of climate data that is available; not that we house this information and store it, but that we provide summary tables for each of the pieces of information that are out there as resources to our committees as well as other folks working on these issues.

Then lastly the group has suggested that we do this gap analysis of what types of data is missing. We would review all the information that's out there to make sure we have known programs that collect the environmental data. We would verify that all that information is appropriate and is included in the database; but the review should be conducted by each state and federal agency, to ensure that we have a complete look at all the information that's out there and that the ASC would coordinate this review with the MSC.

Then the last part is reviewing the types of environmental data that is collected. We would want to make sure that if there if there are temporal and spatial gaps in the data that we investigate the effects of climate change on the species; that the TCs and the SASs should do this work.

We would determine the relative importance of filling the individual data gaps for each of the species, and prioritize how we would fill that information and identify strategies to address



these data gaps. The document also provides example terms of reference that each of the species committees could utilize when considering changes in the terms of reference as stock assessments come up, and that is an overview of what we have.

CHAIRMAN GROUT: I know that's probably like getting water out of a fire hose right now. It's something that the Committee has been working on for two years. I would encourage you, if you haven't already done so, to take a look at the document; see if you have any questions. We've thought about in advance of the Policy Board or maybe as part of the Policy Board that we might provide some examples.

For example, the different options that we provide for stocks that have a reduction in productivity due to climate change, and then maybe an example of how a board might consider some of the various options for a species that have experience range movements and distribution movements due to climate change, how they might consider that with it. Given that is there any initial first cut questions people have about this particular White Paper as it is right now? Lindsay.

MS. FULLENKAMP: We've taken a look through the document; and also have some folks participating in the workgroup, and I applaud the efforts of the workgroup to tackle this subject and get it to this point. It's a pretty big subject to tackle. We do have some concerns with the document; specifically the approach included that harvest could continue on a stock with low to no productivity. We'll continue to work through the Workgroup to address those concerns.

CHAIRMAN GROUT: Chris.

MR. CHRIS BATSAVAGE: Michelle reminded me the issue that we just wanted to make sure was raised, and I think Toni already has it that came in late was I think in terms of any changes in allocation, some consideration be made to

phasing in those changes over a period of time. When you consider how long some of these allocation schemes have been in place; it's kind of tough just to the next year change over when you consider all the infrastructure and fisheries developed around those allocations.

CHAIRMAN GROUT: That is one of the options, specifically under the list of options that a board could use for species distribution changes; that if there was a decision by the board to have changes in allocations, it could be in a phased-in process. We think that's an important concept for each board to consider. Is there anything else? Well, thank you and as I said, and I want to thank the efforts of the Work Group.

We had several meetings and conference calls, and then had reviewed different drafts of this. I want to thank the work of the Working Group. It was diverse and it was a public process. I think we've come up at least with a good starting point for the Commission to start adapting management to deal with climate change.

Again, we'll be back with maybe a couple examples of how this would work; and seek your approval of the document in February for use by management.

#### **STANDING COMMITTEE REPORTS**

CHAIRMAN GROUT: Next, we're going to go to Standing Committee Reports, and the first one is going to be the Habitat Committee; and Lisa Havel is here to provide that Habitat and ACHFP.

#### **HABITAT COMMITTEE**

DR. LISA HAVEL: My first update will be on the Habitat Committee and I'll be brief for both Habitat and ACFHP. The Habitat Committee met on October 18, so all day yesterday. We had a discussion led by Michelle Bachman from the New England Fishery Management Council

on their Habitat Impacts modeling work. I'm looking at fishing gear impacts on fish habitat.

I provided an update on what ACFHP has been up to; and I'll provide a similar update to you all soon. We also reviewed the 2017 Action Plan progress, and finalized Goal 4 in 2018 for the Action Plan. We developed new ideas for the term Habitat Areas of Particular Concern. I know that at the summer meeting you all charged the Habitat Committee with coming up with a new term to avoid confusion, so we did that. Also, Tina Berger held a discussion on our outreach and communication strategy.

I'll go into more details in the following slides. For the term that we would like to suggest to you all instead of Habitat Areas of Particular Concern; we would like to suggest Fish Habitat of Concern. If you are really opposed to that we would recommend Habitat of Concern. If you have comments now I am happy to take them; or we can open it up at the end of my presentation.

CHAIRMAN GROUT: Does anybody want to provide comments on this term? We had this brought to the Commission before, and they certainly had concern about HAPCs being used. Do you have any preference on either of these terms or are you fine with either of these as alternatives to the ones that we rejected? I'm seeing none so I think you get to choose between those two.

DR. HAVEL: Okay, Fish Habitat of Concern it is. The Habitat Committee is also working on a document based on state and federal actions regarding climate change. We've been identifying gaps in regulatory planning and we will also be making recommendations in this document. I plan to present that all to you at the winter Board meeting.

This year is also the 20th anniversary of the Habitat Committee's Submerged Aquatic Vegetation Policy. It came out in 1997. This year's habitat hotline will be themed

submerged aquatic vegetation; and we plan to have that all out to you before the Christmas holiday. We're also working to review and update the 1997 SAV Policy document.

We plan on including emerging issues and updates on the SAV status in particular estuaries or states; also include information on state initiatives that have been taking place since 1997. We're including similar goals from the original plan, but update the recommendations and the literature. I plan on presenting that to you at the winter board meeting as well. The Habitat Committee is also working on an aquaculture document. We've made a lot of progress since my update at the August meeting. This document will highlight the effects of aquaculture on fish habitat along the Atlantic Coast, and it will be presented by being sorted by the aquaculture methods. These species that we're culturing as well as what each state is doing.

I know that some of you all, I know Maine and Connecticut would both like to review the document before I present it to the Policy Board; and I'm happy to work with any other Commissioners that would like to see the document before we bring it. Again, hopefully winter 2018 for approval. Just come talk to me or shoot me an e-mail after the meeting.

For 2018, we chose the topic of the acoustic effects on fish habitat physiology and behavior for a habitat management series; and environmental monitoring for habitat hotline. Looking at short term versus long term monitoring; how different agencies are able to fund their monitoring programs, what they're modeling data is being used for, et cetera.

We are also working on providing the Fish Habitats of Concerns document to you all; so compiling all of the information that we have regarding fish habitat areas in all of the fishery management plans, cross referencing them with the federal identified areas, and identifying gaps and making recommendations when we go

to update fishery management plans in the future. With that I'm happy to take any questions on the Habitat Committee.

CHAIRMAN GROUT: Are there any questions for Lisa? John Clark.

MR. JOHN CLARK: Thank you for the report, Lisa. When you talked about the federal habitat, were you talking about Essential Fish Habitat? Also, I was just wondering if you're also looking at the – I know the regional planning bodies are all looking at habitat also – is that something that you're considering?

DR. HAVEL: The plan is to include Essential Fish Habitat and Habitat Areas of Particular Concern that are put out by the federal agencies. If you would like to see more included in the document, we're happy to do that.

MR. CLARK: No, that is fine. I just was curious as to whether that was a topic that had come up to the Habitat Committee.

DR. HAVEL: It did not.

CHAIRMAN GROUT: Are there any other questions for Lisa; now on to ACFHP?

#### ACFHP

DR. HAVEL: Now for my ACFHP update. Our Science and Data Committee are working on a project to map conservation fish habitat areas in the southeastern United States. This is a NOAA funded pilot project; and to move this forward our Science and Data Committee had a webinar on June 12.

Then we met in person September 27 and 28 in Arlington, Virginia. The Committee finalized variables and scoring criteria for diadromous coastal and estuarine habitats; and we hope to have these mapping prioritizations available come this spring. The Steering Committee for ACFHP met October 16 and 17 here. We received a presentation from Jeff Beal from the

Florida Fish and Wildlife Conservation Commission. He was also the recipient of this year's Melissa Laser Conservation Award. We discussed updating the ACFHP website. We have some funding to do that this year; and then in the upcoming year. We brainstormed ideas on what we would like to see. I provided an update on the southeast mapping project that I just described to you all.

We also finalized our 2018 National Fish Habitat Action Plan Project rankings for on-the-ground projects, and I provided an update on our black-sea-bass project as well. I will provide some brief updates for both of those next. Our black-sea-bass-habitat project is provided by a grant from the Mid-Atlantic Council to support habitat research in the Mid-Atlantic.

We are working with the University of Maryland Eastern Shore, Dr. Bradley Stevens there; he is in his second field season and has begun analyzing his 2016 data, and he is looking at black sea bass abundance on both artificial and natural habitats. He is analyzing stable isotopes to look at trophic level.

He is looking at epifaunal composition in different habitats; and he's set up an experimental reef corridor to connect habitats to see how black sea bass are moving between habitats, and also looking at stomach analyses. As far as our 2018 NFHP funding recommendations, our number one priority for funding for next year is our ACFHP operations.

Then we had four different project proposals that we would like to recommend to the Fish and Wildlife Service as well; a Colombia dam removal in Knowlton Township, New Jersey, oyster reef restoration in Back Sound, North Carolina, a conservation moorings project in Coecles Harbor, New York, and SAV restoration in Chesapeake Bay.

These are just our recommendations to the Service. This is not a guarantee that all of these projects will be funded. I'll go into a little bit

more detail about each of these. For the Columbia dam removal, the dam will be removed and it will open up 20 river miles. They would also like to restore native vegetation along the stream banks there.

This dam is the first obstruction to passage off of the Delaware River; so by opening it up they will have better connectivity to the ocean. It will benefit American shad, river herring, American eel and native sea lamprey, and this project is led by the Nature Conservancy. The oyster reef restoration project in Back Sound Rachel Carson Reserve is in North Carolina near Beaufort.

They will restore 0.11 acres of oyster reefs; which will protect an additional three plus acres of salt marsh. This is led by East Carolina University; and will benefit red drum, flounder, and bonnet head sharks. The conservation mooring project in Coecles Harbor, New York, which is on Long Island will replace six traditional boating moorings with conservation moorings, in order to protect sea grass in the harbor.

I'm sorry that the photo is not very clear; but it is an aerial view of scouring that goes on around each boating mooring, so you can see where there is bare sand substrate where there should be sea grass around each mooring. The objective is to replace those scouring moorings with ones that have less impact on the bottom to allow sea grass to grow in.

This project is led by New York State and the goal is to have good visibility here to inspire others to use the conservation moorings. This footprint will be relatively small, but we hope that the coverage will be good so we can get other people excited about it. It will benefit bay scallop, fluke, puffers, sea horses, river herring, American eel, and striped bass. Finally, a project to restore SAV in the freshwater Mesohaline Region in Chesapeake Bay, they would like to use sea grass seeding techniques, in order to restore 10 to 20 acres of SAV.

This is part of the Chesapeake Bay Program's goal of restoring 185,000 acres in the Bay by 2025, I believe. This is led by Maryland DNR, and benefits blue crabs, striped bass and more. As always, ACFHP would like to thank the Commission's continued support, both operationally and with all of your information, efforts and all that and I'll be happy to take any questions.

CHAIRMAN GROUT: Are there any questions for Lisa on this? Seeing none; thank you, Lisa, I appreciate it.

#### **LAW ENFORCEMENT COMMITTEE**

CHAIRMAN GROUT: We'll move on to Mark and the Law Enforcement Committee report.

MR. MARK ROBSON: I think we have a couple quick slides to go through. The Law Enforcement Committee had a very productive meeting this week. We met Tuesday and Wednesday. It was well attended. We appreciate the opportunity to get together and have that meeting. We provided a written meeting summary; which gives you a little more detail of the things that we discussed during our two-day period, and that's available to the Commission and Policy Board folks.

Some of the significant species issues that we reviewed, first of all we had a presentation by a company that is working on lobster tracking equipment that is being tested now in some other fisheries; the sea urchin and some other shellfish fisheries in either Maine or Louisiana, and got a presentation on the possibilities of using that.

You know we've been discussing the need for some type of tracking technology in the offshore lobster fishery. This is one possibility. It provides very high ping rates; so you can do good tracking. It also has the capability to monitor actual hydraulic trap hauler activity. These are the kinds of things that law

enforcement folks are looking at as a valuable tool.

We're going to continue to explore other kinds of technologies as they become available or we are made aware of them. We're going to continue to work on that issue so that we can do better enforcement in the offshore lobster fishery. ASMFC staff came in, Megan Ware and Mike Schmidtke to brief us on some of the developing management options for some of your species; particularly the Menhaden Draft Amendment 3, which is being developed.

I won't go into details. There was some interest in how that small scale fishery bycatch issue or incidental catch issue is taken up. But there really weren't any significant concerns, as far as processes for setting allocations and that sort of thing. We'll continue to work with staff and provide input on the amendment as we continue; the same with cobia. The LEC members had some pretty good interest in particularly the part of the developing plan that would look at setting de minimis regulations.

Particularly for the states at that nexus where you go to de minimis states, or possibly go to de minimis states. Trying to be as consistent as possible to have complementary regulations; particularly for the states of New Jersey, Delaware, Maryland, and Virginia, to try to coordinate in a way or have the regulations in place that those regulations can be as consistent and complementary as possible. Also, to the extent that that can be done with the offshore federal waters; recognizing that's not an easy thing to do. But looking at the various management options, we hope we can continue to provide input on how we can be consistent there. Several of the LEC members had some insights as to how fishermen are behaving and acting in those areas. It was believed that there could be some real value in trying to have some consistent regulations; because fishermen are going to go where they can catch the fish.

Next issues, we talked about some other issues. Toni has already covered the charging for-hire operators; so I won't go into that. We provided some input there and discussed those issues. Another issue that came up Wednesday, which we just want to highlight and make the Commissioner's aware of. It is regarding enforcing regulations in the EEZ for tautog. As you probably know there is no federal plan for tautog, no federal management plan.

Even though the Magnuson-Stevens Fishery Conservation Management Act does provide for state enforcement or state regulations; in cases where there is no complementary fishery management plan in federal waters. The reality, based on some of the discussions of the LEC members is that in some states for jurisdictional reasons, the State's attorneys or the judges or Courts, are either unable or unwilling to make cases using state regulations in those federal waters.

We discussed a couple of different possible options; for states to implement regulations or statutory language that would specifically allow for the application of state regulations into federal waters, in the absence of a federal plan. That could alleviate some of this problem. But we just wanted to make that known to you that it is an issue; and particularly moving forward with the tautog management strategies and plans that we hope to see in the next year or two.

This is something that probably should be taken a look at by the individual states; and we hope that we can provide you some more insight into that as we go down the road. We had some basic administration issues that we were able to take up at this meeting. We have a new Chair and Vice-Chair; we have a two-year rotating chairmanship.

We thanked Mike Eastman from New Hampshire for his chairmanship role. Our new chairman is Steve Anthony from North Carolina. We selected a new Vice-Chair, Doug Mesick

from Delaware. Both gentlemen will be a really good leadership component for the LEC going forward. We took a look at our action plan; and of course the Law Enforcement Committee takes this seriously.

We have Goal 3 tasks that we look at on a regular basis; and we tried to do our best to review that and an update for the 2018 year. We also discussed kind of formalizing a little bit of an orientation process for new LEC members; something that I've observed. I have not done probably as good a job as I could have in getting new LEC members oriented. We have had a fairly significant turnover over the last few years of LEC members.

We want to try to have a process in place; so that new members can come in and hit the ground running. Lastly, I've mentioned this before; but it came up in discussions. There is a national leadership training program for law enforcement and conservation. It's sponsored by the National Association of Conservation Law Enforcement Chiefs; NACLEC, and also by the United States Fish and Wildlife Service, to run a very intensive training program out at the Shepherdstown facility, at the leadership training facility out there. Right now we have five members of the LEC who are graduates of that program; and an additional three members of the LEC who are actually on the Steering Committee. I just want to point that out as a factor in the professionalism and the ability of these folks that are representing law enforcement on your committee, to shine in a leadership role, and to continue to do that through the ASMFC process as well. We thank them for their leadership initiatives. With that Mr. Chairman, I complete my report.

CHAIRMAN GROUT: Are there any questions for Mark on this? Adam.

MR. NOWALSKY: Obviously partnership with federal entities is a large portion of law enforcement. I know our state in particular is very involved. Has the Law Enforcement

Committee discussed the merits of having state officers engaged with doing federal enforcement?

Because of the fact that those funding, quite frankly, is often more desirable than what you can bring back to your state because of the difficulty in making cases at home, in a lot of cases. Are there thoughts about that and the fact that there is a shift towards federal enforcement occurring by state officials, as opposed to focusing on state enforcement issues?

MR. ROBSON: That's actually something that comes up almost at every one of our meetings. We have discussions about the Joint Enforcement Agreement, and how the states use the federal dollars to assist in federal waters priorities for fishing. Just in the case of the tautog issue, there is somewhat of a problem there.

State officers do regularly enforce in federal waters. There is a mechanism to do that. It's just in this particular instance with tautog, where there was no complementary federal plan, it actually does make it more difficult to come back into the court system in that individual state, and make those cases. They are still out there trying to do that work.

We also at the August meeting, we reviewed the NOAA priority setting process; and they've been changing how they are prioritizing federal fisheries work that they want to see done. But overall, I think the states are doing their best to do that enforcement at the federal level. In some cases if there are violations, if it's possible to use both state and federal citations in order to make their cases, they are doing that as well. I don't know if I answered your question. I wasn't too sure specifically what you were talking to.

CHAIRMAN GROUT: Follow up.

MR. NOWALSKY: Specifically I think there is a sense that there may be more incentive for state enforcement officials to do federal enforcement versus state enforcement. I think that is what the concern is that I would have personally, and what I see.

MR. ROBSON: Yes Adam. I have not heard that concern expressed at the LEC level. I just have not heard that concern that there is too much emphasis. I think there is always an issue where they want to make sure that they're meeting the needs of the Joint Enforcement Agreement to do federal enforcement work. But most of the state law enforcement officers that I'm hearing from at the LEC are very actively engaged; and still doing a lot of state level work.

CHAIRMAN GROUT: Okay are there any other questions? Jay.

MR. McNAMEE: Thanks for the report, Mark. I'm thinking about the Lobster Initiative, I guess I'll call it that you were talking about. I think you guys also had a representative from Farabiti come in. Is that technology that he was showing you linked to that accountability initiative?

MR. ROBSON: Yes that's specifically why he was asked to be there. He just gave a brief presentation on the technology. They are testing it in Maine with the urchin fishery, trap fishery. There have been some applications in Louisiana as well; I think for oyster.

But it is something that Maine is looking at for application in the lobster fishery; and specifically for being able to get better data on where the offshore fishermen are, where traps are being hauled, which is very important from an enforcement perspective. There are limitations on the range of some of this equipment.

If you're beyond 10 or 15 miles it may not be actively returning results. But it does data

logging, so there is access to data points once they return to within range. Of course, we didn't really discuss cost. We were looking at mainly from the enforcement perspective. But there may be other companies or other technologies that we would hope to find that are available as well for that kind of purpose.

CHAIRMAN GROUT: Okay thank you, Mark, and we are running behind schedule here. We do have a couple other action items we have to address; so if we can be efficient with our comments here so that the South Atlantic Board doesn't miss their flights, because they do have an important action to take.

#### **UTILITY OF REPORTING SPECIES TECHNICAL COMMITTEE ASSIGNMENTS**

CHAIRMAN GROUT: Shanna, could you give us the utility of reporting species technical committee assignments?

MS. SHANNA MADSEN: Yes thank you, Mr. Chair, and I promise that I will be very efficient. Diving right in, if you'll remember back to August meeting week, I had mentioned that the Assessment Science Committee was going to be working on a more effective means; to kind of illustrate the tasks that each of our Assessment Science Committees are working on.

Previously we updated this Assessment Scientist Workload Score Sheet; and I have that up there to show you guys, the representation of how hard and cumbersome this is to read and look through, and be able to wade through and understand. Essentially, we did the Score Sheet, which only included our benchmark stock assessments; and then recently we involved these updates. But it really overlooked a lot of the tasks that we were completing outside of the stock assessment process.

It really didn't capture the overlap of some of our committee members on a lot of our other species technical committees. Essentially, at the Assessment Science Committee meeting we

kind of talked about putting together something like a task list. The things that we were thinking about when we were talking about this list were that we really wanted to provide a basis for you guys to be able to have constructive conversation; as you're tasking the technical committees at the board level.

Essentially, we had hoped that the task list would be able to help us keep track of what tasks are there, give you a timeline for completion on those tasks, and provide a baseline for prioritization of those tasks. What needs to be done the fastest? What is most important to you all? We had hoped that it would also help to illustrate this committee membership overlap issue.

If you're assigning, let's say the Striped Bass Technical Committee something. Does that actually cascade down onto another one of our technical committees; because we have a lot of overlapping members? What does that workload look like; and what does that mean? You might have noticed that within our supplemental materials we put some of these example species task lists.

Kirby actually did a really good job of bringing those up during a few of his board meetings. Essentially, we hope that this task list will be compiled each year with ASMFC staff; and they can work with their TC and SAS Chairs, to put this together and obviously the task list will be edited at the board's request, as you guys work through and give more tasks during the year.

One of the things that the ASC recommended is that as we have these task lists we can bring them up at the time of tasking during a board meeting. We can have you guys assign a priority, we can discuss due dates. You know sometimes due dates will require going back to the technical committee and verifying whether or not that is a doable timeline; or if it's a larger task.

But then we can reprioritize tasks, and accommodate these new tasks that come into play. Within this task list you'll see a couple of things that I highlighted previously that we were trying to accomplish. You know we want to assign essentially, an activity level for those committees. How busy are they this year? Do they have a benchmark stock assessment? What does that mean?

We have this committee overlap score. How many other committees does that specific TC overlap with? What are those other TCs that might be affected by an overburdening of that specific technical committee? We also listed our TC and SAS member list; and their affiliation, so you guys can see oh hey, I see that my specific state person is on this committee. They have a lot to do or they don't have a lot to do, so maybe I'll step them up to a couple of things.

Just kind of getting everyone acquainted with specifically who is on what committee at the species board level. With that I kind of made sure to keep it nice and efficient. But if you guys have any questions or comments, we hope that these task lists will be provided at every meeting along with all of the rest of your briefing material, so you have them on hand, and then we can use them live during board meetings.

CHAIRMAN GROUT: Questions about this? I think it's a good idea and thank you very much for putting that together. We'll look forward to them; and I see Jay.

MR. McNAMEE: Yes I'll be quick. Just to acknowledge, I'm double dipping here, because I also commented at the ASC level. But I see this as a real value. It's simple in this current construct. I think it could be kind of popped up. I think there is a lot of tasking that goes on; and it's not anyone's fault, because the taskers are sort of in the ether and there is no context for it.



Having the ability to kind of pop this up and you can see it. Then think about the priority of what you're asking for versus the things that you've already got these guys doing; I think is going to be a real value to the process, and will help us think through this resource issue a little bit more comprehensively.

#### **REVIEW AND CONSIDER CESS AND ISFMP CHARTER GUIDANCE FOR MEMBERSHIP**

CHAIRMAN GROUT: Now moving on to Consideration of CESS, and potentially a modification to our ISFMP Charter.

MS. MADSEN: This is my presentation too. Essentially we're coming to you guys. I'm the CESS Coordinator. CESS has been reviewing their current membership requirements. We went to the Charter; we looked at it and realized that it might not necessarily fit the vision that we have now with this new role as a committee.

The current requirements that are in the Charter are that the CESS members are appointed at the discretion of the Commission Chair. Each one of our states needs to have a representative. We need to have two representatives from Headquarters at NMFS; we need to have a representative from GARFO and SERO.

We need one representative from each regional council, and we need one representative from U.S. Fish and Wildlife Service. As we reviewed these things and we started to talk about our new role in trying to work individually with species, and assign CESS members to PDTs, to make sure that we're really getting the socioeconomic perspective worked into our new management change documents.

We discussed relaxing a lot of these requirements. Right now currently, CESS has a lot of gaps in their species coverage. We have a lot of gaps in membership; and reason being is that we did have a lot of retirements. But then

the other issue was that as we developed into trying to become much more active in the ASMFC process, there was a little bit of hesitancy; considering a lot of the CESS members are volunteers.

We are asking them for a lot. I kind of thought that it might be a good idea for us to relax the membership requirements; so that we can reach a broader range of individuals, who come in with an understanding of knowing exactly what they're going to be doing on this committee now. I'm hoping that people will be excited to be a part of ASMFCs process. We're just trying to allow a little bit more flexibility.

Appointing members to meet these very stringent requirements, I don't really think encourages active participation in this committee. But the group did want to note that they still recognize that we should really try to focus on having a balance of both social scientists and economists, and geographically. On this slide I pulled the language from the Charter; and the language in red is the old language, which is what I listed to you guys at the beginning in bullet-point form.

But I'll read the new language aloud, to see what you folks think. The Committee on Economics and Social Sciences is a standing Commission committee. Committee membership is voluntary; and preferably consists of a balance of economists and other social scientists, knowledgeable about fisheries issues in their region.

An active base of members willing to help the CESS achieve their primary activities is a top priority; while ideally membership should be balanced geographically to provide coastwide representation. Up to 20 individuals should be maintained on the CESS. That is the new language that we're recommending to allow a little bit more flexibility in our membership. With that I would be happy to take any input from the Board; or if you folks are comfortable with the changes that we've made, we would

need a motion to change that language within the ISFMP Charter.

CHAIRMAN GROUT: Are there any questions on this or comments? John.

MR. CLARK: Do we need to put anything in there to make it clear that all states could have membership on the CESS; you know that any state can nominate somebody. That membership won't be limited to 20 individuals that a state doesn't have somebody on the CESS and would like somebody on the CESS?

CHAIRMAN GROUT: Shanna.

MS. MADSEN: Yes I think we can change the language a little bit to reflect that; to make sure that each state has representation. If folks want to be more flexible they can be.

CHAIRMAN GROUT: Bob.

EXECUTIVE DIRECTOR BEAL: Shanna did the group talk about the Chair still appointing the membership; or under the new language that part is struck. How would the group be appointed?

MS. MADSEN: Yes so we did talk about that. We thought that it would be good to essentially make an open call. I think at the Board level, if folks have people in mind at their states, they can come to us and let us know. But I think that having it appointed at the discretion of the Chair was hard.

Because we also wanted to be able to make an open call to fill in any missing gaps; essentially we thought that we could distribute something to the same parties that we distributed our RFP to; so that we can try to get members from all across the coast that are already interested in being a part of ASMFC process.

EXECUTIVE DIRECTOR BEAL: I think we still need to include something in there about after you make the open call and you get a bunch of

interested folks, we need some group or an individual or Chair, or whoever it is, to make a decision about which of those interested folks actually populate the Committee. We've been doing it each year in the Chair's memo at the beginning of the year. Somehow, or some group needs to pick through that I suppose.

CHAIRMAN GROUT: Toni.

MS. KERNS: We changed the protocol; I think when we changed at some point that both Habitat Committee members and CESS Committee members can be appointed at any point during the year. It just still has to go through the Chairman.

CHAIRMAN GROUT: Roy.

MR. MILLER: It wasn't clear to me, based upon the presentation, whether membership by a state person is prescriptive or strictly voluntary. In other words, I presume each state would have the opportunity to put a person on the CESS. But will each state be represented on the CESS?

CHAIRMAN GROUT: Shanna.

MS. MADSEN: The way that we have it written is that you will have an opportunity; but each state does not necessarily have to. The reason being was it being so prescriptive, there were still states that there were always gaps on. Unfortunately we could never fill those holes; so we were never up to full capacity on that Committee, which was leaving us then gaps in species coverage.

CHAIRMAN GROUT: Are there any other questions on this? Is there a motion, a specific motion that's been crafted? Hearing some of the comments here, I think we might have to modify the motion. Is it something that we can do quickly today; or should we hold off until the next meeting to take it into consideration, you know put in specifically who will be doing the appointing and to make sure that every state

has the opportunity. Because I think that language needs to be actually in the Charter.

EXECUTIVE DIRECTOR BEAL: Well, one option maybe, we can at the staff level tweak that language and just circulate it to the Policy Board between meetings. I think it's a pretty clear record of the sense of the Policy Board here. We can adjust that language and make sure the CESS is okay with it; and do that between meetings, so we don't have to wait too long on it, if that works for the group.

CHAIRMAN GROUT: Are you suggesting that this motion be made by someone at this point; with the language will be tweaked, or should we wait and make the motion at the next meeting, after we come up with the actual language?

EXECUTIVE DIRECTOR BEAL: I think we can make the motion today. If we get to a point where we can't resolve this over e-mail, then we can tackle it at the next meeting. But I think we can make the motion today and handle it through e-mail correspondence; and it will be done before the next meeting.

CHAIRMAN GROUT: Would anybody like to make this motion at this point? John.

**MR. CLARK: I would make the motion, Mr. Chair. But I think instead of modified today; we need to change it to as modified between now and the winter, 2018 meeting.**

CHAIRMAN GROUT: Does that work, Bob?

EXECUTIVE DIRECTOR BEAL: That would work. **The other option would be just as modified to reflect the Policy Board discussion today.**

MR. CLARK: That would be fine. I would be glad to make that motion.

CHAIRMAN GROUT: Okay, is there a second, Jim Estes, discussion on the motion. **Seeing none; is there any objection to approving the**

**motion? The motion is approved by unanimous consent.**

#### **REVIEW AND CONSIDER APPROVAL OF THE ASSESSMENT SCHEDULE**

CHAIRMAN GROUT: And finally, review and consider approval of the assessment schedule, with a couple changes.

MS. KERNS: There have been two changes to the assessment schedule that will need Board approval. The first was described at the Shad and River Herring Board. The Shad stock assessment was an update and it's being changed to a benchmark; which pushes the timeframe back to 2019, because it is a benchmark it will require more time to complete, as well as the weakfish stock assessment, which I described at the Business Session. We're going to shift that back from an update in 2018 to an update in 2019; to allow us to include the transition data from the Marine Recreational inputs, MRIP program. Those are the two changes.

CHAIRMAN GROUT: Are there any questions for Toni on those two changes? **Is there any objection to making those two changes to the stock assessment schedule? Seeing none; it's approved by unanimous consent.**

#### **ADJOURNMENT**

CHAIRMAN GROUT: Is there any other business to be brought before the Policy Board today? Seeing none; I see we're adjourned.

(Whereupon the meeting adjourned at 11:55 o'clock a.m. on October 19, 2017)

December 20, 2017

Mr. James J. Gilmore, Jr., Chair  
Atlantic States Marine Fisheries Commission  
1050 N. Highland Street, Suite 200 A-N  
Arlington, Virginia 22201

Dear Mr. Gilmore:

Virginia hereby appeals the decision of the Atlantic Menhaden Management Board (the “Board”) to set the coast-wide total allowable catch (“TAC”) for menhaden at 216,000 metric tons for the 2018 and 2019 fishing seasons and to adopt certain portions of Amendment 3 to the Atlantic Menhaden Fishery Management Plan (“FMP”). Specifically, Virginia challenges the decision to allocate the TAC in a way that results in an unanticipated and unfair reduction in Virginia’s allowable menhaden landings and the decision to lower the Chesapeake Bay Reduction Fishery Cap (the “Bay Cap”) despite the lack of supporting scientific information. Taken together, these decisions, which are unnecessary for the conservation of the fishery, impose severe and unfair adverse economic impacts on Virginia and prevent it from sharing in the benefits of the increased TAC.

## BACKGROUND

Atlantic menhaden have been subject to a coast-wide fishery management plan since 1981, but the first management measure, the Bay Cap, was not instituted until the passage of Addendum II in 2005. ASMFC, Amendment 3 to the Interstate Fishery Management Plan for Atlantic Menhaden, at pp. 26-27 (November 2017) [hereinafter “Amendment 3”]. At that time, the coast-wide status of the stock was healthy, but there was uncertainty about whether the reduction fishery in the Bay was causing localized depletion. Addendum II outlined research priorities to determine whether the depletion was occurring and imposed the Bay Cap as a precautionary measure to ensure that it did not occur while the research was being done. *Id.* at pp. 24, 27.

After passage of Addendum II, the company that is responsible for the reduction fishery on the East Coast, Omega Protein Corporation (“Omega”), entered into talks with recreational fishing and environmental groups to revise the cap.<sup>1</sup> Those discussions resulted in an agreement to set the cap at 109,020 metric tons. This agreement was implemented in Addendum III. (Amendment 3, at p. 27). The addendum permitted limited roll-over of unused quota from one year to another, meaning that the maximum that could be harvested in a given year from the Bay was 122,740 metric tons. *Id.*

The first coast-wide management measure, a TAC, was established in Amendment 2, which was approved in December of 2012. *Id.* The TAC was set at 170,800 metric tons, which represented

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<sup>1</sup> See Scott Harper, “Kaine and Fishery Strike Deal to Limit Menhaden Harvesting in Bay,” *Virginian Pilot*, available at [https://pilotonline.com/news/local/environment/kaine-and-fishery-strike-deal-to-limit-menhaden-harvesting-in/article\\_4300a886-9bb8-5e2e-b620-c416c7fd4fce.html](https://pilotonline.com/news/local/environment/kaine-and-fishery-strike-deal-to-limit-menhaden-harvesting-in/article_4300a886-9bb8-5e2e-b620-c416c7fd4fce.html)

a 20% reduction from average landings from 2009 through 2011. *Id.* This TAC was allocated among jurisdictions using average annual landings of each jurisdiction during the same 2009 through 2011 period. *Id.* The amendment also provided for a 20% reduction in the Bay Cap, resulting in a cap of 87,216 metric tons. *Id.* at p. 28.

The TAC was increased by 10% to 187,880 metric tons in May of 2015. *Id.* The Bay Cap was not increased. In 2016, the TAC was increased again by 6.45%, resulting in a TAC of 200,000 metric tons. *Id.* Once again, the Bay Cap was not increased. At the same time that it voted to increase the TAC, the Board initiated the development of Amendment 3 to the FMP to explore the feasibility of implementing menhaden-specific biological and ecological reference points (“BERPs”) to replace the current single-species reference points that are used to manage the stock and to re-examine the method of allocating the TAC among the jurisdictions. *Id.* at pp. 1-3.

The Board considered whether to adopt Amendment 3 and adjust the TAC at its meeting on November 13 and 14, 2017. At the meeting, the Board was presented with evidence indicating that, under the current stock assessment, the menhaden stock is healthy and overfishing is not occurring. Furthermore, the Board was presented with information indicating that raising the TAC to 220,000 metric tons would result in absolutely no risk of the fishing mortality target being exceeded and raising the TAC even higher would result in only a small risk of exceeding the target. After substantial debate, the Board decided not to adopt the BERPs presented, perhaps because they were not menhaden-specific and may have caused the lowering of the TAC substantially to meet the target fishing mortality rate; instead, it chose to continue using single-species reference points until menhaden-specific BERPs are finalized. The Board raised the TAC by 8%, setting it at 216,000 metric tons. It also decided to reallocate the quota using an unorthodox fixed minimum allocation. Under that system, all states, regardless of their history of menhaden landings, are each provided 0.5% of the TAC. The remainder of the TAC is then divided among the states according to their proportion of the landings from 2009 through 2011. States that do not wish to retain their portion of the TAC are given the option of relinquishing all or some portion of their new quota, which will cause that portion of the TAC to be redistributed among the remaining states in proportion with their landings. The Board continued the 1% episodic events set aside for the New England states. Finally, the Board voted to lower the Bay Cap by more than 41%, setting it at 51,000 metric tons. Despite the increase in the TAC, Virginia’s permissible landings were actually decreased once the allocation method and episodic events set-aside are taken into account.

Virginia exhausted every possible avenue to avoid these results and secure relief from the Board. At the meeting, Virginia argued that the TAC that was chosen was likely too low to accomplish the goals expressed in the reallocation discussion, which were to increase allocations to additional East Coast states but not at the expense of existing menhaden fisheries. When the allocation method was discussed, Virginia argued and voted against each of the fixed minimum proposals. It also forcefully advocated against lowering the Bay Cap, pointing out that such an action was unsupported by any scientific evidence. Those efforts failed. Virginia is unaware of any remaining avenue of securing relief from the Board and believes that this appeal is its only recourse.

## ARGUMENT

Despite the Board's decision to raise the TAC, which shows that it believes the menhaden stock is healthy, it adopted an allocation method that cut Virginia's permissible menhaden landings and reduced the Bay Cap. The decisions on the TAC and allocation prevented Virginia from benefiting from the increase in the permissible harvest level and provided jurisdictions with little or no history of landings with a substantial share of the TAC, relative to the practical needs of those jurisdictions. The reduction in Virginia's permissible landings was an unforeseen impact of the Board's decisions. In addition, the decisions unfairly penalized Virginia in contravention of the FMP and disregarded the historical landings period that the Board chose. Compounding the problem was the decision to lower the Bay Cap despite the lack of supporting technical information. These measures, which are unnecessarily restrictive in light of the health of the menhaden stock, should be altered to protect the interests of all jurisdictions participating in the fishery.

*I. The Board unintentionally and unfairly penalized Virginia to benefit other states with no history of participating in the fishery when setting the TAC and allocating the TAC among the states.*

Although the Board's decisions ultimately reduced Virginia's permissible landings, this was not the Board's stated intent. Throughout the Board's deliberations on Amendment 3, a theme emerged: many Board members wanted to provide additional jurisdictions with an opportunity to participate in the fishery, but they did not wish to do so at the expense of the other jurisdictions. For example, when the Board was considering whether to set the fixed minimum allocation at 0.75% or 1%, much of the discussion focused on how the former was preferable because it would not harm any state. After that method was chosen, however, a representative from Omega pointed out that the 0.75% fixed minimum would result in an 8% reduction in Virginia's landings. At that point, some Board members and staff worked to find an alternative allocation scheme that would not harm any state. The result of those efforts was a table distributed by staff showing that allocating the TAC based on a 0.5% fixed minimum would achieve that goal. At that point, a motion was made to reconsider the allocation, and the 0.5% fixed minimum was selected. Unfortunately, the staff analysis reflected in the table did not account for the episodic events set-aside, which has been 1% of the coast-wide TAC since 2013. Before the set-aside is factored in, Virginia's allowable landings increase by 0.58%. After the set-aside is removed, however, Virginia's allowable landings decrease by 0.43%, which amounts to more than 1.6 million pounds of menhaden.<sup>2</sup> If this had been pointed out to the Board, it undoubtedly would have taken steps to ensure that Virginia was not harmed.

In addition to being unforeseen, the impact on Virginia is fundamentally unfair. Amendment 3 takes pains to note that its allocation method is designed to provide a fair and equitable allocation of the resource among the jurisdictions and an allocation that is biologically, economically, and socially sound. (Amendment 3, at pp. 3, 24, 29). The allocation method that was ultimately chosen

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<sup>2</sup> Several states have indicated that they will relinquish their share of the TAC for the 2018 fishing season. Once those shares of the TAC are redistributed, Virginia's permissible landings will rise modestly. Nevertheless, the allocation is still problematic because the benefit accruing to Virginia is unfairly small when compared to the disproportionate benefit enjoyed by the other jurisdictions. In addition, there is no guarantee that the states that relinquished their allocation this year will do so again next year, meaning that Virginia may face a reduction in its allowable landings during the 2019 fishing season.

fails that standard. First, the allocation results in a reduction in harvest opportunity for only one state, Virginia, while providing other jurisdictions with very substantial and unnecessary increases. For example, three states that had no allocation before were given the opportunity to land more than 2 million pounds of menhaden, while New Hampshire's allocation was increased by more than 1,000,000%. Moreover, it is not at all clear that many of the states which benefitted from this reallocation can actually use it. Virginia is the only state with a reduction fishery; the other states that have a menhaden fishery at all have a bait fishery. The recent socio-economic study of the menhaden fishery requested by the Board found that most states with minor shares of the TAC under the old allocation system are often not affected by their minor percentage of the TAC because of the bycatch provision that allows vessels to harvest up to 6,000 pounds of menhaden per day even after a state or jurisdiction's share of the TAC has been harvested. The bycatch amounts will continue to not be counted against the TAC under Amendment 3. This means these states could proceed harvesting menhaden for bait at a rate of 6,000 pounds of menhaden per vessel per day after their relatively small portion of the TAC realized under Amendment 2 has been landed. Thus, many states that benefitted from the reallocation could have had the same or a similar harvest level under the small-scale fishery and bycatch provisions without the reallocation of the TAC.

Indeed, many of the jurisdictions admitted that they do not need the additional allocation and do not have the desire or infrastructure to make use of it. Pennsylvania, for example, repeatedly stated during the deliberations that it had no desire to create a fishery for menhaden in the state, even going so far as suggesting that, if it were forced to demonstrate the intent and ability to make use of its allocation as a condition to receiving it, its fishermen would purposefully use faulty gear that would allow the vast majority of the fish in the nets to escape. New Hampshire stated that it may have the ability to make use of some of its allocation, depending on whether a large fishing vessel decided to target menhaden and dock in the state, but it admitted that it would likely make a good part of its allocation available to other states through transfers. South Carolina acknowledged that it did not have the infrastructure necessary to participate in the fishery and expressed a willingness to relinquish its allocation. Connecticut, on the other hand, stated that it would not participate in the relinquishment program, as it viewed the allocation as a kind of currency to be traded.

The latter position highlights the unfair position in which Virginia finds itself. It can either allow its permissible landings to decrease or negotiate for a transfer from a state that has no need for its allocation of the TAC because it either has no intention to participate in the fishery or its fishery is not bound by the TAC under the small-scale fishery and bycatch provisions. In other words, Virginia must either accept the lowered allowable landings of menhaden and the clear, demonstrable adverse economic impacts on the communities that depend on the fishery or provide a windfall to a state by exchanging something of value for a transfer of a portion of the TAC that the transferring jurisdiction does not need. It is fundamentally unfair, socially unjust, and economically unsound to place a state in such a position, especially when doing so is unnecessary for the preservation of the menhaden fishery because the stock is healthy enough to provide for an increased harvest level for all jurisdictions.

This fundamental unfairness stems from a key defect in the fixed minimum allocation method: namely, the scheme ignores historical landings in setting the minimum. Even states that had no landings whatsoever during the relevant landings period are given an allowable harvest of more than 2.3 million pounds of menhaden. This is a radical redistribution of the TAC. Indeed, if the Board had

instead chosen to double the average landings of the smaller jurisdictions, it would have ended up redistributing around 16 million fewer pounds of menhaden. It is troubling to Virginia that a historical basis of landings had persisted since 2013, whereby Virginia rightly enjoyed 84.96% of the TAC, yet the *de novo* allocation system adopted by the Board resulted in Virginia being downgraded to 79.66% of the coast-wide TAC.

A remedy to this unnecessary and unfair allocation exists. The most reasonable way to remove the unfairness is to increase the TAC to a level that allows all jurisdictions to be given a fair share and adopt an allocation method that is based on landings. While jurisdictions that have not traditionally participated in the fishery can be given shares of the TAC, they should be required to demonstrate some landings under the bycatch or small-scale fishery provisions before that occurs. Doing so will ensure that the decision will not provide significant shares of the TAC to states with no intention of using them as anything other than a bargaining chip while also ensuring that states with established fisheries will be provided with sufficient allowable landings to avoid harm to those fisheries.

*II. The decision to lower the Bay Cap is unnecessary and unsupported by scientific evidence.*

Compounding the harm to Virginia stemming from the setting of the TAC and the allocation method is the Board's decision to reduce the Bay Cap from 87,216 metric tons to 51,000 metric tons. If lowering the cap were necessary to preserve the health of the menhaden stock, that harm could be justified. Unfortunately, the technical information available to the Board does not demonstrate any such need for lowering the Bay Cap.

Before examining the technical information presented to the Board, it is first beneficial to examine the rationale for the Bay Cap. It was initially justified as a precautionary measure to ensure that localized depletion of menhaden would not occur while the issue was studied. (Amendment 3, at p. 24). Later, the Board theorized that it protected the Bay as "an important nursery ground for menhaden." *Id.* Finally, at the meeting, the maker of the motion to lower the Bay Cap asserted that it was necessary to protect the Bay as a nursery for both menhaden and other species. This justification was reflected in the press release that announced the reduction in the Bay Cap. *See ASMFC, News Release, ASMFC Approves Amendment 3 to the Interstate Fishery Management Plan for Atlantic Menhaden*, ("This recognizes the importance of the Chesapeake Bay as nursery grounds for many species by capping recent reduction landings from the Bay to current levels."), available at [http://www.asmfc.org/uploads/file//5a0c69b4pr57 MenhadenAmendment3\\_Approval.pdf](http://www.asmfc.org/uploads/file//5a0c69b4pr57 MenhadenAmendment3_Approval.pdf).

The technical information presented to the Board does not support any of these rationales. First, as to localized depletion, the studies that were commissioned at the time the Bay Cap was first instituted failed to find that such depletion was occurring. (Amendment 3, at p. 24). In fact, those studies indicated that, if such depletion did occur, it would be relatively small in scale and short-lived given the migratory nature of menhaden. *Id.* An external peer review of those studies conducted by the Center for Independent Experts supported this view, concluding localized depletion was a possibility in theory but nothing demonstrated that it was occurring in the Bay.

There is similarly no evidence to support the view that lowering the Bay Cap was necessary to protect the Bay as a nursery area for menhaden. Amendment 3 does not explain how the Bay Cap



serves to protect the Bay as a nursery. Logically, it could only do so if the reduction fishery resulted in high mortality for juvenile menhaden or harmed menhaden habitat. Nothing indicates that it does either. The reduction fishery does not target juvenile menhaden,<sup>3</sup> and the mortality rate among juvenile menhaden attributable to fishing activity is low. In addition, no evidence exists to show that the gear used in the reduction fishery harms the habitat of menhaden or any other species.<sup>4</sup> In fact, the scientific information that is available tends to show that the reduction fishery does not harm the Bay's nursery function at all. If the fishery did harm the Bay, one would expect the research in the area to show the Bay to contributing fewer recruits than other estuaries or supplying less healthy recruits that fail to survive to reproduction age. That is not the case. Instead, the current research indicates that the Bay contributes roughly the same proportion of recruits to the population as estuaries in New England and the southeast. *Id.* at p. 21. These recruits tend to survive to reproduction age in roughly equal proportions. *Id.* It is thus apparent that the reduction fishery does not prevent the Bay from serving as a nursery for juvenile menhaden.

Finally, there is similarly no evidence to suggest the Bay Cap was necessary to protect the Bay as a nursery for other species. Again, Amendment 3 does not provide an explanation for how the Bay Cap serves this purported purpose. However, it could only do so if the reduction fishery deprived other species of a sufficient amount of menhaden to forage, harmed the habitat of those other species in some way, or harvested large numbers of those other species as bycatch. Of course, as discussed above, there is nothing to indicate that localized depletion of menhaden is occurring, so there is nothing to indicate that the harvest is depopulating the Bay to such an extent that other species do not have a sufficient forage base.<sup>5</sup> In addition, no evidence has been tendered to show that the reduction fishery harms the habitat of any animal. Finally, nothing indicates that the reduction fishery harvests such large numbers of other species that their numbers are endangered, as the bycatch in the fishery is incredibly low. *See id.* at pp. 14-15 (noting that studies have found that there is little bycatch in the purse seine fishery and summarizing a study conducted by the Virginia Institute of Marine Science that found that the bycatch in the 1992 menhaden reduction fishery comprised only 0.04% by number).

There is thus no technical information to support the view that the Bay Cap needed to be lowered. Virginia does not object to the Bay Cap being in place, but it does object to arbitrarily lowering it when no science indicates that doing so is necessary or even beneficial for conserving the

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<sup>3</sup> One Board member speculated that this may change. During deliberations on the Bay Cap, that member asked the Virginia delegation whether Omega, which was recently acquired by a new company, would begin targeting smaller fish to fulfill some unnamed purpose of its new owner. Virginia indicated that it had no knowledge of such plans and that the smaller fish were not generally useful for Omega's purposes. As far as Virginia is aware, Omega has no plans to begin targeting juvenile menhaden.

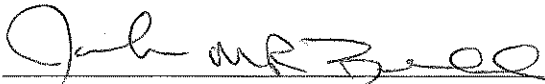
<sup>4</sup> The purse seine has no impact on habitat if used correctly. Food and Agricultural Organization, United Nations, Purse Seines, <http://www.fao.org/fishery/geartype/249/en> ("Because of [the purse seine's] characteristics there is no impact on the bottom habitat (except when the water depth is less than the height of the seine during the fishing operations and . . . the lower edge of the gear wipes the sea bottom).").

<sup>5</sup> A multi-year dietary analysis of the top five predators in the Chesapeake Bay found that menhaden comprised at least 5% of the diet of only one of those predators. T.F. Ihde, et al., *Assessing the Chesapeake Bay Forage Base: Existing Data and Research Priorities*, at pp. 20, 26 (STAC Publication 15-005, 2014), available at [http://www.chesapeake.org/pubs/346\\_Ihde2015.pdf](http://www.chesapeake.org/pubs/346_Ihde2015.pdf). Thus, the impact of any localized depletion that did occur on other species would be negligible.

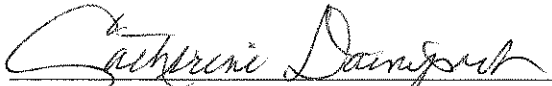
menhaden fishery. Accordingly, Virginia believes that the Bay Cap should be restored to at least 87,216 metric tons and that a limited amount of unused quota should be rolled over to future years.

### CONCLUSION

In sum, the Board's decisions on the TAC, allocation of the TAC, and the Bay Cap, all of which are excessively restrictive and unnecessary for the conservation of the menhaden fishery, should not be allowed to persist. Virginia believes that the Interstate Fisheries Management Board ("ISFMP Board") should instead order that the TAC be set at 220,000 metric tons and that an allocation method be adopted that is based on historical landings without arbitrary adjustments. In addition, Virginia believes that the Bay Cap should be returned to 87,216 metric tons with a possibility for the rollover of a portion of any unused quota from year to year. As required by the ISFMP Board's Appeals Process pursuant to which this appeal is taken, Virginia commits to comply with the ISFMP Board's decision in this matter, subject to its right to take further action beyond the ASMFC process to seek relief.



John M.R. Bull, Administrative Appointee



Catherine Davenport, Governor Appointee



Senator Richard Stuart, Legislative Appointee



# Atlantic States Marine Fisheries Commission

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*James J. Gilmore, Jr. (NY), Chair*

*Patrick Keliher (ME), Vice-Chair*

*Robert E. Beal, Executive Director*

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*Vision: Sustainably Managing Atlantic Coastal Fisheries*

January 17, 2018

John M.R. Bull  
Commissioner  
Virginia Marine Resources Commission  
2600 Washington Avenue  
3rd Floor  
Newport News, Virginia 23607-4317

Dear Mr. Bull,

This letter responds to the Commonwealth of Virginia's December 20, 2017 appeal of the Atlantic States Marine Fisheries Commission's (Commission) approval of Amendment 3 (Amendment) to the Atlantic Menhaden Interstate Fishery Management Plan (FMP). On January 5 and 11, 2018, in accordance with the appeals process, a conference call of the Commission Chair Jim Gilmore, Vice-Chair Pat Keliher, past Chair Doug Grout (Leadership), and staff were convened to review the Virginia appeal. The purpose of the review was to assess the issues Virginia raises in its appeal and to determine whether those issues are of the type and substantiality that warrants review by the full Interstate Fisheries Management Program Policy Board (Policy Board). Given the appeal does not directly indicate the specific appeal criteria for which Virginia is making its claims, Leadership has made assumptions for which criterion an issue falls under.

During the call, it was determined the appeal did **not** meet the qualifying guidelines under appeal criterion one (decision not consistent with FMP), four (historical landings period not adequately addressed) and five (unforeseen circumstances/impacts) for both state allocations and the setting of the 2018 total allowable catch (TAC). However, it **could be forwarded** to the Policy Board for appeal consideration under criterion three (incorrect application of technical data) for the Chesapeake Bay Reduction Fishery Cap (Bay Cap). Appeal criterion two was not considered because it was not referenced in the appeal.

## **A. Claims Under Criterion One: Decision Not Consistent with FMP**

The appeal referenced criterion one, "Decision not consistent with the FMP." Under this criterion, the appeal argues the allocation method fails to meet the goal of the FMP specifically allocating the resource in a method that is biologically, economically, and socially sound. See letter from Virginia Commissioners to ASMFC Chair James J. Gilmore, pp. 3-5 (December 20, 2017). Leadership rejects this claim.

The goal of Amendment 3 is “to manage the Atlantic menhaden fishery in a manner which equitably allocates the resource’s ecological and economic benefits between all user groups. The primary user groups include those who extract and utilize menhaden for human use, those who extract and utilize predators which rely on menhaden as a source of prey, and those whose livelihood depends on the health of the marine ecosystem. Pursuit of this goal will require a holistic management approach which allocates the resource in a method that is biologically, economically, and socially sound in order to protect the resource and those who benefit from it.” While it is true the allocation method does result in a reduction of the percent share allocated to Virginia, the Commonwealth is allocated nearly 80% of the coastwide quota with the remainder to be shared by the other 14 member states. It is important to note the available quota for Virginia actually increases in 2018 relative to 2017. This increase is further described later in this letter.

Under the FMP, the primary user groups are defined as the directed fishery (bait and reduction), recreational fishermen, predators of menhaden, and those whose livelihoods depend on the health of the marine ecosystem. Given the FMP goal of equitable allocation, one could argue that allocating nearly 80% of TAC to one jurisdiction within a 15 jurisdiction management unit is not an equitable distribution to the primary user groups. Given the diverse objectives of the primary menhaden user groups, the Board must make allocation decisions that balance biological, economic, and social trade-offs. The Board had significant deliberations on the issue of what is equitable allocation. By choosing the fixed minimum allocation method, the Board was able to address the needs of the different stakeholders, taking into account the needs of the directed fishery, while having minimal negative impact relative to the 2017 quotas. Virginia’s 2018 quota still allows for growth, given it has not harvested its full allocation in the last two years. Leadership concludes substantial grounds for an appeal are not present on this issue.

**B. Claims Under Criterion Four: Historical Landings Period Not Adequately Addressed**

The appeal cited criterion four, “Historical landings period not adequately addressed.” Under this criterion, the appeal states the fixed minimum allocation method ignores historical landings in setting the minimum. See letter from Virginia Commissioners to ASMFC Chair James J. Gilmore, pp. 3-5 (December 20, 2017). Leadership rejects this claim. While Virginia is correct the fixed minimum does not use history-based landings, the vast majority (approximately 94%) of the TAC is allocated using average landings from 2009-2011. Leadership concludes historic landings are being considered for the allocation of the vast majority of the TAC. Commission guiding documents do not require Boards to allocate quota based solely on historical landings information.

Virginia states the fixed minimum allocation method was “radical” and “unorthodox.” Leadership argues the method is a reasonable allocation tool to accommodate changing conditions in a fishery that cannot be addressed through the use of historic landings. In fact, two other Commission plans use fixed minimums to allocate quota, northern shrimp and American eel. In addition, there are several other fisheries in the United States and the world

that are managed using fixed minimums, including Western Atlantic reefish and the Shetland shellfish fisheries (UK). The fixed minimum approach allowed the Board to allocate the majority of the TAC using historical landings, but provided opportunities for states that either did not have accurate historical catch information (due to the lack of reporting requirements) or have seen increases in menhaden abundance in state waters in recent years (2015-2017). Leadership concludes substantial grounds for an appeal are not present on this issue.

Virginia suggests a remedy to the “unnecessary and unfair” existing allocation is to increase the TAC to 220,000 MT. The Board did consider this TAC level at the November 13 and 14, 2017 Board meeting but the motion failed with 5 in favor and 13 in opposition (See November Meeting Summary page 3). The Board reviewed a wide range of TAC levels with varying levels of risk for exceeding the fishing mortality target. In setting the TAC, the Board considered both the menhaden resource and the ecosystem services the resource provides. It also took into consideration the overwhelming public support to conservatively manage the resource. In taking this holistic approach, as set by the goal and objectives of the FMP, the Board set a lower TAC than could have been afforded under tradition single species management. This was an intentional and conscious conservative management action to minimize risk to the resource while menhaden-specific ecological reference points are developed over the next two years.

In addition, the appeal suggests a state should demonstrate landings in either the bycatch or small scale fishery provision in order to receive allocation. A similar concept was considered by the Board but was not approved.

*...States have the option to opt out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds for bycatch purposes and decline the remainder of their quota. States also have the right to opt in to the program and receive their full allocation... (See Meeting Summary page 5).*

This notion, that a state must demonstrate landings history to receive allocation, was argued against by states that support the FMP’s goal to include those primary user groups that extract and utilize predators which rely on menhaden as a source of prey, those whose livelihood depends on the health of the marine ecosystem and those non-consumptive users who place a high value on a healthy ecosystem. Some states see a different social and economic value for menhaden in their waters for both the recreational and ecotourism industries. These sorts of decisions highlight the nature of cooperative interstate fisheries management – to seek to balance the different needs and values of all involved states, not the one or the few. These difficult decisions are sometimes necessary in service of the management goals of the FMP.

**C. Claims Under Criterion Five: Unforeseen Circumstances/Impacts.**

The appeal letter cites criterion five, “Unforeseen circumstance/impacts.” The appeal recounts the Board wanted to provide additional jurisdictions with an opportunity to

participate in the fishery but not at the expense of other jurisdictions. The appeal states if the Board had known under the 0.5% fixed minimum and the 1% episodic event set aside Virginia's landings would be decreased, the Board would have taken steps to ensure Virginia would not be harmed. See letter from Virginia Commissioners to ASMFC Chair James J. Gilmore, pp. 3-5 (December 20, 2017). Leadership disagrees with Virginia's position that these issues were unforeseen. While the tables that were passed at out the meeting did not include the 1% episodic event set aside, it was made clear to the Board at the start of the meeting the Amendment would be taken up in the order presented in the document. This meant that episodic events set aside would be discussed after allocation, and would alter the distribution of the TAC (See Board minutes pages 2 and 50).

When considering action on the allocation method, scenarios were presented where Virginia would have less quota in 2018 than in 2017 despite the increase in the TAC. But the Board recognized Virginia's quota would have the opportunity to increase above 2017 levels if states relinquished quota. During the Board deliberations, a few states indicated it was their intent to relinquish quota. Since the November Board meeting 6,704,365 pounds of quota has been relinquished. Virginia's 2018 quota has increased by 5,696,800 pounds because relinquished quota is redistributed to states based on their average landings from 2009-2011 (84.97% for Virginia). Based on the additional quota received, Virginia's 2018 quota is 4,099,337 pounds higher than 2017. Allocation decisions are always difficult; but they are, as here, necessary in service of management goals of the plan. Since Commissioners recognized and weighed these potential impacts to the states and industry, Leadership does not find the allocation consequences of this Amendment as unforeseen.

**D. Claims Under Criterion Three: Incorrect Application of Technical Information.**

Virginia's appeal is partially based on appeal criterion three, "Incorrect application of technical information." Under this criterion, the appeal states the reduction in the Chesapeake Bay Reduction Fishery Cap (Bay Cap) from 87,216 MT to 51,000 MT and the removal of the rollover provision is not supported by the technical information that has been presented to the Board or described in the Amendment. See letter from Virginia Commissioners to ASMFC Chair James J. Gilmore, pp. 5-7 (December 20, 2017).

Leadership concluded the Policy Board should consider Virginia's claim that Chesapeake Bay localized depletion studies were inconclusive. The decision to set a reduced Bay Cap in Amendment 2 was a precautionary measure set as a placeholder until the commissioned studies on localized depletion were finalized and peer-reviewed (Amendment 2 reduced the Bay Cap from average landings from 1999-2004 to 87,216 MT). It was not based on a scientifically quantified harvest threshold, fishery health index, or fishery population level study. The Bay Cap limit was a compromise reached by managers, fishery stakeholders, and environmental NGOs.

In addition, the appeal states there is no evidence in Amendment 3 to support the view that lowering the Bay Cap was necessary to protect the Bay as a nursery area for menhaden and

there is no evidence to suggest the Bay Cap is necessary to protect the Bay as a nursery for other species. Leadership agrees the Amendment does not provide sufficient evidence to support such claims. In making this statement, it does not conclude that evidence does not exist, but that it is not contained in the Amendment.

Virginia claims the Bay Cap was arbitrarily lowered. In setting the 51,000 MT Cap, the Board considered recent harvest levels to minimize impacts on Virginia. The Bay Cap was set at the average landings in the Bay from 2012-2016 (rounded up); therefore, it was not arbitrarily lowered nor was it expected to significantly impact the prosecution of the fishery.

Leadership is recommending the formation of a Fact Finding Committee (Committee), as allowed under the appeal process, to investigate the science surrounding the Bay Cap. The Committee would conduct a literature review of the science in question. The Committee would look for peer-reviewed literature that could address the following questions:

1. What is the impact on menhaden reproduction or other species in the Bay with menhaden harvest set at 87,216 MT?
2. Does menhaden harvest in the Bay impact menhaden nursery grounds? Other species?
3. Does menhaden harvest in the Bay impact menhaden reproduction in the Bay?
4. What environmental factors impact menhaden reproduction in the Bay?
5. Is there current science that would guide the Board in setting the appropriate level of harvest in the Bay?

Leadership recommends to the Policy Board:

- Consider the appropriate level of the Bay Cap for 2018 while the Fact Finding Committee addresses the above questions.
- Charge the Menhaden Board with reconsideration of the Bay Cap to 87,216 MT for 2018 while the Committee drafts a report to the Board. After reviewing the Committee's report, the Menhaden Board could consider the Bay Cap for 2019 and beyond.

In recognition that Virginia sets its annual menhaden regulations through a legislative process, not controlled by Virginia Marine Resources Commission, Leadership strongly recommends pursuing/implementing this one year change in the Bay Cap as a way to help facilitate compliance with the FMP.

In light of these findings, Leadership finds there are grounds for the appeal to be heard by the Policy Board on one of the three claims under criterion three advanced in Virginia's letter – specifically, Virginia's claim regarding the Bay Cap. Leadership concludes it is appropriate to provide Virginia an opportunity to present its appeal on this issue to the Policy Board. During the ISFMP Policy Board meeting on February 8, 2018, the ISFMP Director will present background on the Amendment and the Board's justification for changing the Bay Cap. Following this presentation, the Commissioners from Virginia will be provided 15 minutes to present their rationale for the appeal and their suggested resolution of the issue. The Policy Board will then be provided an opportunity to discuss the issue, consider the recommendation from Leadership, and then decide what issues, if any,

Mr. John M.R. Bull

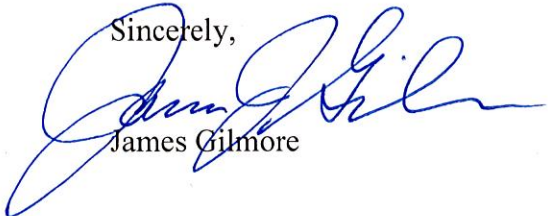
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January 17, 2018

should be remanded back to the Menhaden Board for corrective action. No additional public comment will be taken in connection with the appeal.

Thank you for the continued partnership and commitment to the Commission process and actions.

Sincerely,

A handwritten signature in blue ink, appearing to read "James Gilmore", written over the typed name.

James Gilmore

cc: Catherine Davenport  
Senator Richard Stuart  
Interstate Fisheries Management Program Policy Board

L18-08



## Atlantic States Marine Fisheries Commission

### **APPEALS PROCESS**

Approved by the ISFMP Policy Board

August 18, 2004

#### **Background**

The Atlantic States Marine Fisheries Commission's interstate management process is based on the voluntary commitment and cooperation of the states. The involved states have frequently demonstrated their willingness to compromise and the overall process has proven to be very successful. However, there have been instances where a state/jurisdiction has expressed concern that the Board decisions have not been consistent with language of an FMP, resulted in unforeseen circumstances or impacts, did not follow established processes, or were based on flawed technical information. In order to address these concerns, the ISFMP Policy Board charged the Administrative Oversight Committee with "exploring and further developing an appeals process".

Under the current management process the primary policy development responsibility lies with species management boards. And, in the case of development of new fishery management plans or amendments the full Commission has final approval authority prior to implementation. The purpose of the appeals process is to provide a mechanism for a state/jurisdiction to petition for a management decision to be reconsidered, repealed or altered. The appeals process is intended to only be used in extraordinary circumstances where all other options have been exhausted. The management boards have the ability to go back and correct errors or address additional technical information through the recently clarified process on "amending or rescinding previous board actions".

During the December 2003 ISFMP Policy Board meeting, the decision was made to continue to have the Policy Board serve as the deliberative body that will consider valid appeals. This decision is consistent with the language that is included in the ISFMP Charter. However, the Charter does not provide detailed guidance on how an appeal is to be addressed.

This paper details for the Commission appeals process.

**Appeal Criteria** –The intent of the appeals process is to provide a state with the opportunity to have a decision made by a species management board or section reconsidered by the Policy Board. The following criteria will be used to guide what type of decisions can be appealed. In general, management measures established through the FMP/amendment/addendum process can be appealed. However, the appellant must use one of the following criteria to justify an appeal:

1. Decision not consistent with FMP
2. Failure to follow process
3. Insufficient/inaccurate/incorrect application of technical information
4. Historical landings period not adequately addressed

5. Management actions resulting in unforeseen circumstances/impacts

The following issues could not be appealed:

1. Management measures established via emergency action
2. Out-of-compliance findings (this can be appealed but, through a separate, established process)
3. Changes to the ISFMP Charter

**Appeal Initiation** – The ISFMP Charter provides that a state aggrieved by a management board action can appeal to the ISFMP Policy Board. Any state can request to initiate an appeal; also a group of states can submit a unified request for an appeal. The states are represented on the Commission by three representatives that have the responsibility of acting on behalf of the states’ Executive and Legislative branches of government. Therefore, in order to initiate an appeal all seated Commissioners (not proxies) of a state’s caucus must agree that an appeal is warranted and must sign the letter submitted to the Commission. If a multi-state appeal is requested all the Commissioners from the requesting states must sign the letter submitted to the Commission. During meetings where an appeal is discussed proxies will be able to participate in the deliberations. Meeting specific proxies will not be permitted to vote on the final appeal determination, consistent with Commission policy.

A state (or group of states) can request and appeal on behalf of the Potomac River Fisheries Commission, District of Columbia, National Marine Fisheries Service, or the United States Fish and Wildlife Service.

The letter requesting an appeal will be submitted to the Chair of the Commission and include the measure(s) or issue(s) being appealed, the justification for the appeal, and the commitment to comply with the finding of the Policy Board. This letter must also include a demonstration that all other options to gain relief at the management board level have been exhausted. This letter must be submitted via certified mail at least **45 days** prior to a scheduled ASMFC Meeting Week. The Commission Chair, Vice-Chair and immediate past Chair will determine if the appeal meets the qualifying guidelines and notify the Policy Board of their decision. If the immediate past chair is no longer a commissioner the Chair will select an alternate from a state that is not affected by the appeal.

**Convene a “Fact Finding” Committee (optional)** -- Upon review of the appeal documentation, the Commission Chair, Vice-Chair and immediate past Chair (or alternate if necessary, as described above) may establish a “Fact Finding” Committee to conduct analyses and/or compile additional information if necessary. This group will be made up of individuals with the technical expertise (including legal, administrative, social, economic, or habitat expertise if necessary) and familiarity with the fishery to conduct the necessary analysis. If such a committee is convened the schedule included in the last section of this document may need to be adjusted to provide time for the Committee to conduct analyses. The Commission Chair, Vice-Chair and immediate past Chair (or

alternate if necessary, as described above) may set a deadline for the Committee to complete its work to ensure the appeal is addressed in a timely manner.

**ISFMP Policy Board Meeting** –Following the determination that an appeal has met the qualifying guidelines, a meeting of the Policy Board will be convened at a scheduled ASMFC meeting week. The agenda of this meeting will be set to allow sufficient time for all necessary presentations and discussions. The Chair of the Commission will serve as the facilitator of the meeting. If the Chair is unable to attend the meeting or would like to more fully participate in the deliberations, the Vice-Chair of the Commission will facilitate the meeting. The ISFMP Director will provide the background on the development of the management program as well as a summary of the justification provided in the record for the management board’s action. The ISFMP Director will also present the potential impacts of the appeal on other affected states. The appellant Commissioners will present their rationale for appealing the decision and provide a suggested solution. The Policy Board will then discuss the presentations and ask any necessary questions. The Board will vote to determine if the management board’s action was justified. A simple majority of the Policy Board is required to forward a recommendation to a management board for corrective action. If the Policy Board determines that the existing management program should be modified, it will issue a finding to that effect as well as any guidance regarding corrective action to the appropriate species management board. The referral may be worded to allow the management board flexibility in determining the details of the corrective action.

Upon receipt of the Policy Board’s recommendation the management board will discuss the findings and make the necessary changes to address the appeal. The management board is obligated to make changes that respond to the findings of the Policy Board. A simple majority of the management board will be necessary to approve the changes.

**Appeal Products and Policy Board Authority**—Following the Policy Board meeting a summary of the meeting will be developed. This summary will include a detailed description of the findings and will be forwarded to the appropriate management board and Policy Board upon completion. If the Policy Board determines that changes to the management program are necessary, the summary may include guidance to the management board for corrective action. The report of the Policy Board will be presented to the management board for action at the next scheduled meeting.

**Considerations to Prevent Abuse of the Appeals Process** – The appeals process is intended to be used only in extraordinary situations and is in no way intended to provide a potential avenue to preempt the established board process. The initiation of an appeal will not delay the Commission process for finding a state out of compliance nor delay or impede the imposition of penalties for delayed compliance.

**Limiting Impacts of Appeal Findings** – If a state is successful in an appeal and the management program is altered, another state may be negatively impacted by the appeals decision. In order to prevent an appeals “chain reaction,” the Policy Board’s recommendation and the resulting management board’s decision will be binding on all

**DRAFT PROCEEDINGS OF THE**  
**ATLANTIC STATES MARINE FISHERIES COMMISSION**  
**ATLANTIC MENHADEN MANAGEMENT BOARD**

BWI Airport Marriot  
Linthicum Heights, Maryland  
**November 13, 2017**  
**November 14, 2017**

These minutes are draft and subject to approval by the Atlantic Menhaden Management Board  
The Board will review the minutes during its next meeting

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**PLEASE NOTE: PROCEEDINGS OF THE FIRST FEW MINUTES OF THE BOARD RECONVENING ON THE AFTERNOON OF NOVEMBER 14 ARE UNAVAILABLE.**

## INDEX OF MOTIONS

1. **Approval of Agenda** by Consent (Page 1).
2. **Approval of Proceedings of August 2017** by Consent (Page 1).
3. **Move to adopt reference point Alternative E: BERP Workgroup continues to develop menhaden-specific ERPs with interim use of 75 percent target and 40 percent threshold as described in Draft Amendment 3** (Page 24). Motion by David Borden, second by Nichola Meserve. Motion substituted.
4. **Move to substitute Option B: The BERP Working Group continues to develop menhaden-specific ERPs with the interim use of single-species reference points as described in Draft Amendment 3** (Page 25). Motion by Pat Keliher, second by Russ Allen. Motion carried and becomes the main motion (Page 37).

**Main Motion: Option B: The BERP Working Group continues to develop menhaden-specific ERPs with the interim use of single-species reference points as described in Draft Amendment 3.** Motion to amend (Page 37).

5. **Move to amend to add set the TAC at 200,000 metric tons for the next two years (2018-2019)** (Page 37). Motion by Robert Boyles; second by John McMurray. Motion fails (Page 39).

**Main Motion: Option B: The BERP Working Group continues to develop menhaden-specific ERPs with the interim use of single-species reference points as described in Draft Amendment 3.** Motion carried (Page 39).

6. **Move that if a fixed minimum option is selected the following conditions would govern the activity: at the start of each fishing year and no later than January 31, states must declare if they want to participate in the fixed minimum program. States have the option to opt-out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds of bycatch purposes and decline the remainder of their quota**

States also have the right to opt-in to the program and receive their full allocation. In declaring its intent to receive its fixed minimum quota, a state can also choose to receive all, or part, of this amount. If a jurisdiction declines its full allocation it must specifically identify the amount requested. States which opt-in must demonstrate that the state has the intent and the ability to commercially harvest some, or all, of its menhaden quota for the directed or bycatch fishery.

This can be demonstrated through the issuance of permits for applicable gear types or species, historic landings, or the abundance of menhaden in state and/or federal waters. Any quota that is not received by a state is re-distributed to the other jurisdictions based on historical landings from the time-period selected by the Board in this Amendment (Page 51. Motion tabled until Issue 2 is addressed on Page 55. Motion by Pat Keliher; second by Ritchie White.

7. **Move to table under Issue 2: Allocation Methods and Timeframes has been decided** (Page 55). Motion by Adam Nowalsky; second by Rob O'Reilly. Motion passes (Page 55).

8. **Move to set a total allowable catch; not to exceed 216,000 metric tons until such time that ecological reference points are utilized for Atlantic menhaden management** (Page 56). Motion by Jim Estes; second by Spud Woodward. Motion to substitute (Page 57).
9. **Move to substitute to set a total allowable catch of 240,000 metric tons for 2018 and 2019** (Page 57). Motion by Adam Nowalsky; second by David Bush. Motion fails (Page 60).

**Main motion: to set a total allowable catch not to exceed 216,000 metric tons until such a time that ecological reference points are utilized for menhaden management.** Motion to substitute (Page 61).

10. **Move to substitute to set a total allowable catch not to exceed 220,000 metric tons for 2018 and 2018 or until menhaden-specific ecological reference points are available for management use, whichever is first** (Page 61). Motion by David Bush; second by Rachel Dean. Motion fails (Page 67).

**Main motion: to set a total allowable catch not to exceed 216,000 metric tons until such a time that ecological reference points are utilized for menhaden management.** Motion substituted.

11. **Move to substitute to set a total allowable catch not to exceed and be set at 216,000 metric tons for 2018 and 2019 or unless menhaden-specific ecological reference points are available for management use** (Page 67). Motion by Rachel Dean; second by Steve Train. Motion carried (Page 73).
12. **Move to limit debate** (Page 72). Motion by Dennis Abbott; second by Lauren Lustig. Motion carried (Page 72).

**Main Motion as Substituted: Motion to set a total allowable catch to not exceed and be set at 216,000 metric tons until such a time that ecological reference points are utilized for menhaden management.** Motion carried (Page 74).

13. **Move to choose the following options in Draft Amendment 3: Section 4.3.2 Allocation Method Option C with a jurisdictional allocation with a Minimum Base Allocation of 0.75 percent fixed minimum for the Quota Timeframe of 2012 to 2016. Section 4.3.3 Quota Transfer Option A: Quota Transfer would be permitted. Section 4.3.4: Quota Rollover Option A: Unused Quota May Not Be Rolled Over** (Page 75). Motion by Pat Keliher; second by Ritchie White. Motion to amend (Page 75).
14. **Motion to Amend: Section 4.3.3 Allocation method Option C; jurisdictional allocation with a minimum base allocation of a 1.0 fixed minimum** (Page 75). Motion by Emerson Hasbrouck; second by Nichola Meserve. Motion fails (Page 77).
15. **Motion to Amend: To substitute the first bullet with "Option F under Section 4.3.2; Allocation based on TAC level"** (Page 78). Motion by Rob O'Reilly; second by David Bush; Motion fails (Page 80).

**Main Motion: to choose the following options in Draft Amendment 3: Section 4.3.2 Allocation Method Option C with a jurisdictional allocation with a Minimum Base Allocation of 0.75**

**percent fixed minimum for the Quota Timeframe of 2012 to 2016. Section 4.3.3 Quota Transfer Option A: Quota Transfer would be permitted. Section 4.3.4: Quota Rollover Option A: Unused Quota May Not Be Rolled Over. Motion carried (Page 80).**

16. **Move to bring the tabled motion back for consideration by the Board (Page 80). Motion by Adam Nowalsky; second by Emerson Hasbrouck. Motion carried (Page 80).**

**Tabled Motion: Move that if a fixed minimum option is selected the following conditions would govern the activity: at the start of each fishing year and no later than January 31, states must declare if they want to participate in the fixed minimum program. States have the option to opt-out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds of bycatch purposes and decline the remainder of their quota.**

**States also have the right to opt-in to the program and receive their full allocation. In declaring its intent to receive its fixed minimum quota, a state can also choose to receive all, or part, of this amount. If a jurisdiction declines its full allocation it must specifically identify the amount requested. States which opt-in must demonstrate that the state has the intent and the ability to commercially harvest some, or all, of its menhaden quota for the directed or bycatch fishery.**

**This can be demonstrated through the issuance of permits for applicable gear types or species, historic landings, or the abundance of menhaden in state and/or federal waters. Any quota that is not received by a state is re-distributed to the other jurisdictions based on historical landings from the time-period selected by the Board in this Amendment. Motion to Substitute (Page 85).**

17. **Move to substitute that “at the start of each fishing year and no later than January 31st, states may declare if they want to opt-out of the fixed minimum program. States may declare to opt-out of the program and decline all or part of their fixed minimum allocation. If a jurisdiction declines part of their allocation it must specifically identify the amount they do not wish to receive. Any quota that is not received by a state is redistributed to the other jurisdictions based on historic landings from the time-period selected by the Board in this Amendment (Page 85). Motion fails (Page 93).**

**Main Motion: Motion that if a fixed minimum option is selected the following conditions would govern the activity: at the start of each fishing year and no later than January 31, states must declare if they want to participate in the fixed minimum program. States have the option to opt-out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds of bycatch purposes and decline the remainder of their quota.**

**States also have the right to opt-in to the program and receive their full allocation. In declaring its intent to receive its fixed minimum quota, a state can also choose to receive all, or part, of this amount. If a jurisdiction declines its full allocation it must specifically identify the amount requested. States which opt-in must demonstrate that the state has the intent and the ability to commercially harvest some, or all, of its menhaden quota for the directed or bycatch fishery.**

**This can be demonstrated through the issuance of permits for applicable gear types or species, historic landings, or the abundance of menhaden in state and/or federal waters. Any quota that is not received by a state is re-distributed to the other jurisdictions based on historical landings from the time-period selected by the Board in this Amendment.**



18. **Move to reconsider the allocation method** (Page 93) Motion by Robert Boyles; second by Roy Miller. Motion carried (Page 94). **NOTE: *No verbatim transcripts included for this motion***
19. **Move to reconsider the allocation method: To select Section 4.3.2 Allocation Method: Option C, Jurisdictional Allocation with a Fixed Minimum with a 0.5 percent fixed minimum; Allocation Timeframe: 2009-2011. Section 4.3.3 Quota Transfers Option A: Quota Transfers Permitted**  
**Section 4.3.4 Quota Rollover Option A: Unused Quota May Not Be Rolled Over. Section 4.3.5 Incidental Catch and Small Scale Fisheries: Option B modified to include purse seines smaller than 150 fathom long by 8 fathom deep would be considered small scale gear. Section 4.3.6 Episodic Events Option A: 1 percent Set Aside** (Page 95). Motion by Robert Boyles; second by David Bush. Motion carried (Page 104).
20. **Move to select under Section 4.3.7: Chesapeake Bay Reduction Fishery Cap, Option A. Cap set at 87,216 metric tons, and Sub-option A; limited rollover of unused cap permitted up to 10,976 metric tons** (Page 105). Motion by Rob O'Reilly; second by Adam Nowalsky. Motion substituted.
21. **Move to substitute to select Option B: cap set at 51,000 metric tons and Sub-option B; no rollover of unused cap permitted** (Page 105). Motion by Allison Colden; second by John McMurray. Motion carried (Page 110).  
**Main motion as substituted: to select Option B: cap set at 51,000 metric tons and Sub-option B; no rollover of unused cap permitted.**
22. **Move that states must declare any relinquished quota by December 1st of the previous year. States have the ability to declare how much of their quota to relinquish. Any quota that is relinquished by a state is redistributed to the other jurisdictions based on historic landings from the time period selected by the Board in this Amendment** (Page 110). Motion by Pat Keliher; second by David Borden. Motion carried (Page 111).
23. **Move that states implement the provisions of Amendment 3 by January 1, 2018** (Page 113). Motion by Tom Fote; second by Loren Lustig. Motion amended.
24. **Move to Amend: That states submit implementation plans for Amendment 3 by January 1, 2018, and implement by April 15, 2018** (Page 114). Motion by Robert Boyles; second by Jim Gilmore. Motion carried (Page 116).  
**Main Motion as amended: That states submit implantation plans for Amendment 3 by January 1, 2018, and implement by April 15, 2018.** Motion carried (Page 117).
25. **Motion to recommend to the Commission: the approval of Amendment 3 to the Atlantic Menhaden Interstate Fishery Management Plan as amended today** (Page 116). Motion by Robert Boyles; second by Jim Estes. Motion carried (Page 117).
26. **Move to elect Nichola Meserve as Vice-Chair of the Atlantic Menhaden Board** (Page 118). Motion by Robert Boyles on behalf of the Atlantic Menhaden Board. Motion carried (Page 118).
27. **Motion to adjourn by Consent** (Page 118).

**ATTENDANCE**

**Board Members**

Pat Keliher, ME (AA)	Andy Shiels, PA, proxy for J. Arway (AA)
Steve Train, ME (GA)	John Clark, DE, proxy for D. Saveikis (AA)
Cheri Patterson, NH, proxy for D. Grout (AA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
G. Ritchie White, NH (GA)	Roy Miller, DE (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Rachel Dean, MD (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)	Dave Blazer, MD (AA)
Raymond Kane, MA (GA)	Allison Colden, MD, proxy for Del. Stein (LA)
Nichola Meserve, MA, proxy for D. Pierce (AA)	Rob O'Reilly, VA, proxy for J. Bull (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Cathy Davenport, VA (GA)
Robert Ballou, RI, proxy for J. Coit (AA)	Michelle Duval, NC, proxy for B. Davis (AA)
David Borden, RI (GA)	David Bush, NC, proxy for Rep. Steinburg (LA)
Colleen Giannini, CT, proxy for M. Alexander (AA)	W. Douglas Brady, NC (GA)
Sen. Craig Miner, CT (LA)	Malcolm Rhodes, SC (GA)
Jim Gilmore, NY (AA)	Robert Boyles, Jr., SC (AA)
Emerson Hasbrouck, NY (GA)	Spud Woodward, GA (AA)
John McMurray, NY, proxy for Sen. Boyle (LA)	Jim Estes, FL, proxy for J. McCawley (AA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)	Martin Gary, PRFC
Tom Fote, NJ (GA)	Derek Orner, NMFS
Russ Allen, NJ, proxy for L. Herrighty (AA)	Mike Millard, USFWS
Loren Lustig, PA (GA)	

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

Jason McNamee, Technical Committee Chair	Jeff Kaelin, Advisory Panel Chair
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**Staff**

Bob Beal	Shanna Madsen
Toni Kerns	Megan Ware
Katie Drew	Max Appelman

**Guests**

Fred Akers, Newtonville, NJ	Benson Chiles, Chiles Consulting
Julie Akers, Newtonville, NJ	Robt Crockett, Richmond, VA
Lew Armistead, Hollywood, MD	Colin Crozier, CBF
Dana Austin, CBF	Jeff Deem, VMRC
Amiele Barakey, CBF	Monty Deihl, Omega Protein
Blair Blanchette, CBF	Katherine Denel, PEW
John Bello, VA SSA	Mark Driscoll, Richmond, VA
F.L. Benson, Lanexa, VA	Butch Eason, Chesapeake, VA
Sarah Boynton, CBF	Paul Erdman, Menhaden Defenders
Kathryn Bush, CBF	A.J. Erskine, Lottsburg, VA
Kim Cable, CBF	Lynn Fegley, MD DNR

**Guests (continued)**

Christine Fletcher, PEW  
Manley Fuller, FL Wildlife Fed  
Shaun Gehan, Omega Protein  
Rebecca Gagnon, Norfolk, VA  
Joseph Gordon, PEW  
Ken Hastings, Mason Springs  
Marin Hawk, MSC  
D. Heinemann, Marine Mammal  
Peter Himchak, Omega Protein  
Ken Hinman, Wild Oceans  
Rich Hittenger, RI Saltwater Anglers  
Richard Holewinski, CCA MD  
Jerry Hughes, Chesapeake, VA  
Jason Hoffman, *Undercurrent News*  
Deane Horowitz, CBEC  
John Jaackst, Severn, MD  
Chris Johnson, CBF  
Robert Jones, VSSA  
Ron Ketter, Easton, MD  
Robert Kersey, MD NRP  
Jimmy Kellum, Kellum Maritime  
Howard King, Queenstown, MD  
Aaron Kornbluth, PEW  
Ben Landry, Omega Protein  
George Lapointe, Omega Protein, ME  
Ken Lewis, CCA ME  
Ed Liccione, CCA MD  
Bill Lucey, LI Soundkeeper  
Rudy Lukavovic, CBEC

Janet Mackey, Easton, MD  
William Martin, CCA MD  
John Matson, Hampton, VA  
Drew Minkiewicz, KDW  
David Mussina, Mystic River W VA  
Thomas Miller, FORVA  
Chris Moore, CBF  
Henry Neville, Ashland, VA  
Christiana Perry CBEC  
Ken Pinkard, UFCW Local 400  
Jamie Pollack, PEW NY  
Drew Robinson, CBF  
Elizabeth Ronson, CBF  
Robert Ruck, Sr., CCA MD  
Jim Seagraves, Portsmouth, VA  
David Sikorski, CCA  
Jonathan Stone, Save the Bay, RI  
Thomas Strachle, Westminster, MD  
Stan Sutliff, Hampton Roads, VA  
Cameron Taggart, PEW  
Jeff Taylor, Mayforth Group  
Jack Travelstead, CCA  
Donna Waddell, UFCW Local 400  
Marvin Wells, Dundale, MD  
Mike Wills, VA Beach, VA  
Michael Wissel, CCA MD  
Liz Worsham, Heathville, VA  
Tom Zolper, CBF

The Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission convened in BWI Airport Marriot, Linthicum Heights, Maryland, Monday, November 13, 2017, and was called to order at 1:00 o'clock p.m. by Chairman Robert Ballou.

### **CALL TO ORDER**

MR. ROBERT BALLOU: I would like to call this meeting of the Menhaden Management Board to order. My name is Bob Ballou. I have the honor of serving as Board Chair. I would like to begin by extending a warm welcome to all Board members; as well as the many members of the public here in attendance, and listening in via the webinar. We deeply appreciate your time and interest.

Next I would like to introduce the members of staff and committee chairs who are here at this end of the table. To my immediate right is Megan Ware; the Commission's menhaden fishery management plan Coordinator. To Megan's right will be Jason McNamee; the Menhaden Board's Technical Committee Chair.

To Jason's right, or next going to my right is Dr. Katie Drew; the Commission's senior stock assessment scientist. Next to Katie is Shanna Madsen; the Commission's Fisheries Science Coordinator. To Shanna's right is Max Appelman; FMP Coordinator with the Commission, who will be handling the screen as motions are made and considered during the course of this meeting.

At the corner of the table is Toni Kerns; the Commission's Fisheries Management Program Director, and to Toni's right is Bob Beal, the Commission's Executive Director. To my immediate left is Jeff Kaelin; who serves as Chair of the Menhaden Board's Advisory Panel, and to Jeff's left is Major Rob Kersey, who serves as liaison to the Management Board from the Commission's Law Enforcement Committee.

Gathered around the table are the 48 members of the Commission's Atlantic Menhaden Management Board; representing 16 east coast states and our two federal partners. I'm sorry, 16 east coast states in jurisdictions from Maine through Florida; as well as our two federal partners, NOAA Fisheries and the U.S. Fish and Wildlife Service.

All Board members will be afforded the opportunity to participate fully, with regard to all matters that will be before the Board, with the exception of meeting-specific proxies; and I believe we only have one, who will not be able to participate in final voting on final action items. In my capacity as Board Chair, I will be exercising my prerogative to caucus and vote with the Rhode Island delegation; primarily for the purpose of avoiding a null vote from Rhode Island on any given issue, slim as those chances may be. Before we jump into our agenda, for which we have a total of 11 hours allocated through the rest of this afternoon and tomorrow, please indulge me for about two minutes for some brief opening remarks. Without knowing, or even having a reasonable guess as to how this meeting will unfold, I do know one thing and I know it with absolute certainty; and that is that we have reached a major milestone with regard to Atlantic menhaden.

That milestone is characterized by our universal recognition of the soaring importance of this resource; the ecosystem services it provides, and the enormous numbers of people who value and depend on the resource as a source of income, and as a lynchpin of the marine environment along the entire east coast.

On behalf of the entire Board, I want to express our deep appreciation for the many thousands of people, indeed hundreds of thousands of people from all walks of life, who have contributed to the development, analysis, and consideration of the issues that are before us today and tomorrow via Amendment 3.

The contributions from the scientific community, fishing community, environmental community, and all others, including those wearing no particular hat other than one that might read "I care" are duly noted, highly influential, and deeply appreciated. In particular I want to give a shout out to staff, members of the Plan Development Team, and members of the several committees and workgroups who have all lent enormous support to the process; ushering us to where we are today.

This meeting, whatever the outcome, indeed constitutes a milestone for all the reasons just mentioned. Milestones are neither beginnings nor ends; they are points along a journey. With that let's now move forward with our journey; and to all my esteemed colleagues on the Board, may we be guided over the next eleven hours or so by the spirit of doing what's right. Amen.

#### **APPROVAL OF AGENDA**

CHAIRMAN BALLOU: Our first item on the agenda is the agenda itself. Before I seek input from the Board, I would like to offer one clarifying suggestion and one minor tweak. First, with regard to Agenda Item 8, which reads Set 2018 Atlantic Menhaden Specifications, I suggest clarifying it to read, Set 2018 (Annual or Multi-Year) Atlantic Menhaden Specifications.

That exact wording is already set forth in the meeting overview; and speaks to the fact that the Board will be deciding upon a total allowable catch, or TAC, for the fishery, and deciding whether to set it for one year or more than one year. As such, I suggest clarifying the wording for Item 8 as indicated; to better reflect the nature of that agenda item.

Are there any objections to making that clarification? Seeing none, we'll make that clarification. Second under Item 4, I would just like to suggest that we reverse the order of two of the four presentations. After Megan

provides the management option review and the summary of public comments, I would like to move next to the Law Enforcement Committee report, and then immediately follow with the Advisory Panel Committee report.

I suggest that only because I think the flow might work a little better. Are there any objections to that really minor tweak? Seeing none; we'll make that minor tweak. Does anyone else on the Board, or does anyone on the Board have any other recommended modifications to the agenda; yes, Rob O'Reilly?

MR. ROB O'REILLY: Before I make a recommendation it may be solved by a question, which is other than Item 8, there is no specific mention as to the order of business for the biological reference points and the allocation as to where they fit within this agenda. If there is already information on that that would be fine, otherwise I will make a recommendation.

CHAIRMAN BALLOU: My intent with regard to Item 4 is to take up the Amendment 3 issues; beginning with reference points, and then proceeding with allocation and the other issues in the amendment. As currently proposed, we would then conclude Amendment 3, and move on to specifications for the fishery; as the item after that. Right now that is the proposed order of business. Do you have a suggested revision to that? Rob O'Reilly.

MR. O'REILLY: I would just wonder why the quota setting doesn't precede the allocation; because certainly one is going to bear on the other, and I just wondered if there was given any thought to that by staff for this meeting.

CHAIRMAN BALLOU: We'll give it a lot of thought at this exact moment; if you want to recommend making that change.

MR. O'REILLY: I would move that change to establish the quota setting to precede the allocation.

CHAIRMAN BALLOU: The request as I understand it is to amend the agenda by inserting Item 8; which is final action on spec setting into Item 4, which is final action on Amendment 3, such that as we are moving through the provisions of the Amendment, which we plan to take up in the order presented in the draft. When we get to allocation methods, we will pause consideration of the amendment issues to take up final action on spec setting; then continue with the rest of the provisions of the amendment. Is that your request?

MR. O'REILLY: Yes, simply to have the specification prior to the allocation.

CHAIRMAN BALLOU: I realize I gave it more words, but I just wanted to make it clear as to what I understand the intent to be. Is there any objection to that request by any members of the Board? Eric Reid.

MR. ERIC REID: Does that preclude any motions that might be bundled in one shot from being discussed at the same time?

CHAIRMAN BALLOU: My interpretation is that it would not; provided that we first move through reference points, after that there can be bundling. Any further discussion is there any further yet concerns? Dennis Abbot.

MR. DENNIS ABBOTT: Going along with Eric's question. Could we not have a more inclusive motion, but yet divide the question at that time if necessary?

CHAIRMAN BALLOU: If it's the will of the Board we'll do that. It will be my recommendation as Chair that we first move through reference points and then take up the other issues in either a bundled form or issue by issue; whichever the Board would prefer. Seeing no other hands, I will take that to indicate that there are no objections to revising the agenda as recommended by Rob O'Reilly. Are there any other recommended changes to the

agenda? Seeing none, oh I do have one; I'm sorry, yes Dr. Rhodes.

DR. MALCOLM RHODES: This isn't to change the agenda, but just a quick question. We'll need a Policy Board meeting. Would we have that before the close of this? Would we adjourn, then have Policy Board, not only to accept these actions but also we had some actions at the South Atlantic Board that we need to get accepted by the entire Commission. I just wanted to know where in the order that comes.

CHAIRMAN BALLOU: Thank you for the question. I'll refer to Bob Beal to answer it.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Yes, Malcolm, you're correct. At the end of the Menhaden Board meeting, once all the decisions are made for Amendment 3, as well as the specifications for next year and any subsequent years. The Menhaden Board will adjourn; we'll go into a Business Session. The Business Session will tackle Amendment 3, the final approval for menhaden, as well as the cobia FMP that was approved by the South Atlantic Board; so at the very end, hopefully tomorrow afternoon, early afternoon.

CHAIRMAN BALLOU: Anything further on the agenda? Seeing no hands, the agenda as revised stands approved.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN BALLOU: We are now onto the next item which is approval of the proceedings from the Board's last meeting, held on August 2, 2017. Are there any recommended changes to the minutes?

Seeing none; is there any objection to approving the minutes as proposed? Seeing none; the minutes stand approved by consent. I don't see our stenographer, but I assume this meeting is being recorded; and I just received a nod in the affirmative on that.

**PUBLIC COMMENT**

CHAIRMAN BALLOU: Next on the agenda is Public Comment, Item 3.

This is an opportunity for anyone from the public who would like to comment on any issue that is not on the agenda for this meeting, to do so. Given the nature of the agenda, this is a very narrow opportunity. Through the public comment process the Board has already sought and received extensive and valuable public comments on all components of the draft amendment, and all 158,106 comments are before the Board as part of our meeting materials.

That part has been done and done well. When we get to the issue of setting specifications for the fishery, there will be an opportunity for public comment on that issue; but for now the floor is only open to comments pertaining to non-agenda items, that is items not related to menhaden management. We have only ten minutes allotted for this portion of the agenda, which means we have a hard stop at 1:23. We have just one person signed up, and I am going to go to that person first, and that is Mr. Robert T. Brown. Welcome, Mr. Brown.

MR. ROBERT T. BROWN: My name is Robert T. Brown; President of the Maryland Watermen's Association. I want to talk to you today about eels. The Eel Management Plan, if the east coast quota is exceeded by 10 percent in one year, or less than 10 percent in two consecutive years, it sets off a trigger that all states must have individual quotas. The quota was exceeded by approximately 20,000 pounds or less than 2 percent in 2017. Maryland has already, with its fishermen, agreed to close Saturday's and Sunday's harvest during the months of September, October, and November; and will close the entire month of December. Hopefully to avoid being over the quota in 2017. Remember, if it exceeds a quota by one pound in 2017, individual states will have quotas.

CHAIRMAN BALLOU: Mr. Brown. I should have clarified that we're really looking for comments having to do with menhaden; but not on menhaden management issues. You're welcome to go on, but eels do not seem relevant to this Board's meeting.

MR. BROWN: I've only got about one more minute and I'll be done.

CHAIRMAN BALLOU: Go ahead.

MR. BROWN: Okay. With a quota of approximately 900,000 pounds and only 20,000 pounds at 2 percent, this should be considered good management. There are many things that cause this; with an amendment every three to five years, eel population increases, and with less effort and better harvest. You've heard me say before best science available is a guesstimate. Reviewing my statements, it was a poor choice of words, and so many assumptions into fishery management.

Fishery management has many assumptions. It assumes that harvest reports are correct. It assumes that the data collected gives a true representative of the biomass, spawning stock, age classes, et cetera, and then draws an equation to manage the resource. Let's not have any triggers that mandate a reduction. Let's bring these matters back to the Full Board of the Atlantic States Marine Fisheries Commission for commonsense solutions; and remember, this applies to all species, no triggers with mandatory reductions.

CHAIRMAN BALLOU: Is there anyone else from the public that would like to address the Board on any issue pertaining to menhaden that is not on today's agenda?

**AMENDMENT 3 FOR FINAL APPROVAL**

CHAIRMAN BALLOU: Seeing no hands, we will move on to Item 4 on the agenda; which is Amendment 3 for final approval. This is clearly

the main focus of this meeting; and here's how we plan to proceed.

First, Megan Ware to my right will be reviewing the management options in the draft amendment. I believe she has about a 20 minute presentation. If any of the Board members have any burning questions for Megan at the end of her presentation, we can take those up; but my preference would be to move through the other presentations first, then return to questions on key parts of the amendment on an issue-by-issue basis, which is how we plan to move through the next 11 hours or so.

Megan's second presentation will summarize the public comments received during the public hearings and public comment period for the amendment. Megan will then summarize, or Major Kersey perhaps, I'm not sure who, will then summarize the Law Enforcement Committee report on the amendment; and take any questions on it.

Then for our fourth and last of our initial presentations, Jeff Kaelin will summarize the AP, the Advisory Panel report on the amendment and take any questions. We will then be ready to roll up our sleeves and begin addressing the first major issue in the amendment; which is reference points. We will allow ample time for questions before getting into motions. If all goes well, we will finish up with reference points by 5:00 p.m. today or thereabouts; and then recess until tomorrow morning, at which time we will take up TAC, allocation, and the remaining issues in the amendment. With that Megan, the floor is yours.

#### **REVIEW OF MANAGEMENT OPTIONS AND PUBLIC COMMENT SUMMARY**

MS. MEGAN WARE: Today we'll be reviewing Draft Amendment 3 and the associated comments. Just for an overview, the Chairman just spoke about this, but I'll actually be

combining the management options and the public comment summary in one presentation; I mean I'll try and focus on those public comments.

For an overview of the public comment that we received, for public hearings there were 15 hearings conducted in 13 jurisdictions; ranging from Maine through Florida, 602 individuals attended those hearings. For written comment, a total of 158,106 comments were received. The vast majority of those comments were received through form letters.

However, 99 organizations did submit comments on the draft amendment, and the remaining comments (about 450), generally came from individual stakeholders; including commercial fishermen, recreational fishermen, and concerned citizens. I'm going to jump right into the reference point options.

Just to orient everyone to the screen, the five options are going to be on your left; and I'll highlight which one I'm talking about. Then these are the same figures that are used at the public hearings, so it's just a reminder as to what those reference points look like. The red dotted line was our fishing rate in 2016.

Option A is single-species reference points. For this option the Board would continue to use the single-species reference points in place; and the Board would not pursue ecosystem reference points for menhaden. Here the solid black line is our threshold; and the dotted black line is our target, so that red line is below both the target and the threshold. According to this reference point we are not overfishing.

Next is Option B; which is the BERP continues to develop menhaden-specific ERPs, and in the interim we use our single-species reference points. Here it's the same graph, the same reference points. For this reference point we are not overfishing. Option C is again the BERP continues to develop menhaden-specific ERPs; and in the interim we use the hockey-stick



control rule, which recommends a fishing mortality rate that linearly decreases with changes in biomass until 40 percent unfished biomass, at which point there is a moratorium on fishing.

Here the solid green line is that maximum fishing rate when we're at 100 percent unfished biomass; and the dotted green line is the recommended fishing rate for our current abundance. This reference point is saying that we are fishing at a higher rate than we should be; based on our current biomass.

Option D, again the BERP continues to develop menhaden-specific ERPs, and in the interim we use the 75 percent rule of thumb; which recommends a fishing mortality rate that achieves 75 percent unfished biomass. That is represented here with the mustard colored line. That red line is just above the mustard colored line, so according to this reference point we are overfishing.

Then finally, Option E. Again, the BERP continues to develop menhaden-specific ERPs, and in the interim we would use a reference point that recommends a target fishing mortality rate that achieves 75 percent unfished biomass, and a threshold mortality rate that achieves 40 percent unfished biomass. Here the solid blue line is the threshold, and the dotted blue line is the target; so we're just above the target but well below the threshold. I have received several questions about what action is associated with either a target or a threshold.

I just took some of the text from the draft amendment to preemptively address some of these questions. What this says is, if the current  $F$  exceeds the threshold level, the Board will take steps to reduce  $F$  to the target level. If the Board exceeds the target, but is below the threshold, the Board may consider steps to reduce  $F$  to the target level. If current  $F$  is below the target  $F$ , then no action is necessary to reduce  $F$ .

These are the public comments we received on the reference points; and it might be a little hard to see in the back, but these are the same tables that were in the meeting materials. The greatest support was for Option E, which is that 75 percent target, 40 percent threshold; those who supported E, commented on the implementation of ERPs now to account for menhaden's role as prey for larger fish, for whales and for birds.

Many commented that a precautionary approach is best for the long term management of this species; and will lead to stocking improvements for many other species. As a result, many individuals also commented on the economic benefits associated with this option; in terms of other commercial and recreational fisheries, as well as wildlife viewing operations such as whale watching.

Particularly in the Gulf of Maine and in Florida, individuals commented on the decline of other forage fish species, and the need to conservatively manage menhaden. In the southern states, individuals at the hearings commented that they have not seen the resurgence in menhaden populations that the northern states have seen.

The next most supported option was Option B. Those who supported Option B commented that the existing reference points are precautionary enough, while the BERP continues to develop menhaden-specific ERPs. Some questioned why drastic action is needed if the stock is not overfished, and overfishing is not occurring.

A couple of individuals commented specifically on the work by Hilborn, which raised concerns about the applicability of generalized rules to menhaden. At one of the Virginia hearings, many commented on the potential economic impacts; not only to the reduction plant, but also to associated businesses and local towns.

In reviewing the other reference point options, so I'll start with Option C. Those who supported the hockey-stick control rule commented that is the most conservative option; and some stated that it represents the best available science, commenting that a minimum biomass threshold is used in other fisheries such as in Antarctic krill.

For Option D, individuals supported managing to the 75 percent target; and some expressed concern with the high threshold in Option E, stating that Option D ensures management to that 75 percent unfished biomass. Finally, Option A, those who supported this option generally did not feel that the data on predator/prey relationships is strong enough to develop ERPs, and others did not want to see the management of menhaden tied to predator species, pointing towards horseshoe crab management. I'll now review the allocation options here. We have six allocation options.

First is a coastwide allocation, so there is no division of the TAC. Option B is our current jurisdictional approach; where we would divide the TAC between the different states, and this is the same table from the amendment that shows what those percentages would be for the various timeframes.

Option C is a fixed minimum approach; where each jurisdiction gets a minimum percentage of quota. There are three sub-options here, a half percent fixed minimum, 1 percent fixed minimum, and a 2 percent fixed minimum. Option D is regional fleet capacity. Here we would first divide the TAC into two gear types; a large fleet for purse seiners and pair trawls, and then a small fleet for all other gear types. Then we would divide those gear types into regions; a New England Region, a Mid-Atlantic Region, and a Chesapeake Bay/South Atlantic Region. There is an option here for a soft cap for that small-scale fleet, which would set a target quota for those gear types; but it does not subject them to a closure.

That soft cap does come with a 25,000 pound trip limit per day. Option E is the disposition allocation, where we divide the TAC between the bait and the reduction sectors, and there are two options here; either a 75/25 split or a 70/30 split. That bait portion can be further divided by jurisdiction, gear type, region, or through a fixed minimum approach.

Then finally, Option F is allocation based on TAC level. The level of the TAC would determine the allocation method. If the Board chose a TAC that is higher than 212,500 metric tons, the difference between that higher TAC and the 212,500 metric tons could be allocated in a manner that's more favorable to the bait sector.

There are two sub-options there. That green box can be allocated such that 50 percent goes to the reduction fishery and 50 percent to the state bait fisheries; or 30 percent can go to the reduction fishery and 70 percent to the state bait fisheries. This is our public comment. Obviously this table is quite large with all of the options; so I'm going to break it up a little bit.

But I'll just highlight that the two allocation options that got the greatest support were allocation based on TAC level, followed by fixed minimum. I'll start with that allocation based on TAC level, and discuss that as well as the disposition. The greatest support was for this allocation based on TAC level.

Those who supported Option F stated that this option looks to make all states whole, before allocating more quota to the bait sector, and that specifically the reduction fishery is willing to give a little once the pie is whole from the 2012 reduction. Those who supported this option generally stated that other allocation options represent a fish grab by the other states.

Then I'll talk about the bait versus reduction, because it's on the screen now. There was some support for this option. Some expressed

concern that one company has such a large share of quota; and that this is a way to increase quota for the bait sector without increasing the TAC. I'll switch to the other side of that table now. This is going to include the fixed minimum option, which got the second-most support. Many commented that the current allocation scheme is unfair, given one state has 85 percent of the quota, and they felt the fixed minimum creates fishing opportunities for all states.

Others commented that this reduces the complexity of menhaden management, given the Episodic Events Program and the bycatch provision may not be needed. Some noted a biological benefit of spreading quota out along the coast. There were comments clearly against a fixed-minimum approach; commenting that it moves the Commission away from an allocation based on historic catch, and rewards states which have not invested in the fishery.

Then I'll just move left to right on the screen here. Coastwide allocation: some individual's, mostly commercial fishermen, supported a coastwide quota. However, others expressed concern that it could create a race to fish and shut out certain states from the fishery. Next is the jurisdictional approach: there was some support for continued use of a jurisdictional approach, since it secures quota for each state, and provides flexibility for states to divide between gear types or create trip limits.

Finally, the regional fleet capacity option: there were a couple of individuals that did support a soft cap. However, others did not like this approach, since it groups states with different fishing capacities together, and may limit some states participation in the fishery. Next there are timeframes.

There are five timeframes here; 2009 to 2011 is status quo, 2012 to 2016 is the most recent timeframe, 1985 to 2016 is the longest timeframe, 1985 to 1995 is the most historic timeframe, and then Option E is a weighted

allocation. The intent here is to consider both historic landings and recent trends in the fishery.

In terms of public comment, there weren't as many comments given on the allocation timeframe as on the method. However, the greatest support was for that 1985 to 2016 timeframe. Those who supported this timeframe commented that a longer period is better; because it includes more data, and instead of focusing on recent years the Board should consider a longer and more historic perspective.

The next most supported option was 2012 to 2016. Those who supported this option generally felt that it reflects current fishing efforts in the states. There was some support for keeping the timeframe at 2009 to 2011. Those who supported these years commented that it does not include years under a TAC, and therefore is a fair reflection of all states landings prior to implementing that TAC.

Particularly at the Rhode Island hearing, there was support for the more historic timeframe; which is 1985 to 1995, and there was even support for a more historic timeframe than 1985, commenting that fish were more spread out along the coast. Then there was some support for a weighted allocation, and those who supported this option saw it as a compromise approach.

Next are quota transfers. We have three options here. We can continue quota transfers as they are now, so two states mutually agree. Under Option B we add in accountability measures, such that if the state exceeds its quota by more than 5 percent in two consecutive years, it cannot receive a quota transfer in the third year. Then Option C is quota reconciliation, so if the TAC is not exceeded coastwise then any state-specific overages are automatically forgiven. If the coastwide TAC is exceeded, then any unused

quota is automatically pooled and distributed to states or regions.

Of the options in the amendment, the greatest support was for leaving the quota transfer process as is. Those in favor of this option stated that if the states agree to transfer quota then that is fine. There was some support for Option B, and those who supported this option liked the idea of accountability measures, and liked the idea of dissuading states from perpetually exceeding their quota.

Finally, Option C quota reconciliation, those who supported this commented that completing quota transfers at the end of the year eliminates the race to secure unused quota from specific states. I will note that the greatest support was for no quota transfers. Many commented that this supports horse trading of quota between the states.

Some commented that quota transfers are intended to use every bit of unused quota in the fishery. Next is quota rollovers, there are four options here. Option A is no quota rollovers, Option B is up to 10 percent of the total quota could be rolled over if unused. Option C is a 5 percent quota rollover; and then Option D is 50 percent of your unused quota can be rolled over.

The greatest support was for no quota rollovers, which is Option A. Those who did not support quota rollovers commented that there is generally a reason why a state does not catch all of its quota; and this could foreshadow issues with stock abundance. Others commented that unused quota should not be rolled over, as this leaves fish in the water.

Others noted that quota rollovers distort the quotas initially assigned. Of those who supported quota rollovers, Option D received the greatest support. Those who supported Option D commented that quota rollovers make sense; because if you underharvest what was a safe and allowable catch that unused quota is

allowed to spawn before it is harvested the next year.

Others commented that whenever a state goes over its quota it has to pay it back; so it is only fair that if a state is under its quota it should be allowed to roll that unused quota over into the next year. Next is the incidental catch and small scale fisheries provision. There are six options here, three of which are on the screen now, and what ties these three options together is that the incidental catch is not included in the TAC.

Option A is a trip limit for non-directed gears, so things like pound nets and gillnets. Option B is a trip limit for non-directed gears and small scale gears. This includes the pound nets and the cast nets, and Option B is probably closest to what we have now. Under Option C, we build on that so we maintain that trip limit for the small-scale gears and the non-directed gears, but we set a cap at 2 percent of the TAC.

This is not a set aside, but a threshold by which we measure landings in the incidental catch fishery; and if that cap is exceeded by more than 10 percent in a single year, or by any amount two years in a row, the Board is triggered to take action. The next three options are tied together, in that incidental catch is included in the TAC; and we do this through set asides.

Option D is a 2 percent set aside for incidental catch after the quota is met. Option E is a 1 percent set aside for small-scale gears, and what is unique about this option is that it's for their harvest year round. Regardless of what allocation option the Board chooses, the Board can secure quota for those small-scale gears, and then Option F, all catches included in a TAC. Once the directed quota is met the fishery closes.

The greatest support was for Option F, so no incidental catch fishery. Those in favor of this option supported the statement that all catch needs to be counted towards the TAC. Some

stated that the set aside was designed to accommodate certain fishing methods; but this should not be needed if reallocation is successful. Others expressed concern that it's created a loophole in the fishery.

Those who supported continuation of a trip limit, so either Options A or B, were generally commercial fishermen; and they commented that they are dependent on the current bycatch provision. They frequently commented that unless there is enough quota for a year round fishery, an incidental catch trip limit is needed to sustain the fishery and provide bait for the lobster, crab and recreational fisheries.

Some also noted that with stationary gears fishermen have no controls over what swims into the net; and without a trip limit there would be a lot of dead discards. Those who favor the set aside, so Options D or E, generally supported the idea of including all catch in a TAC, but also wanted to provide a way to reduce discards in the fishery.

They expressed concern that without some sort of incidental catch provision, menhaden would be discarded and the resource wasted. Some fishermen did express concern with a set aside; mainly that since it is a coastwide set aside catch in one state could cause an overage, which would then have to be paid back on a coastwide level, and there was no support for the catch cap and trigger.

Next is the Episodic Events Program. We have three options here. We can keep the set aside at 1 percent of the TAC. Option B is to increase the set aside to 3 percent, or Option C is 0 percent; so that would remove the Episodic Events Program. The greatest public comment was for Option C, so that's ending the Episodic Events Program.

Many commented that if reallocation is successful this set aside will no longer be needed. Others commented that while the set aside was appropriate during stock rebuilding,

menhaden are consistently in New England, and so the set aside is no longer appropriate. Some were against the Episodic Event Set Aside, commenting that it artificially increases New England state quotas.

Those who supported the continuation of the set aside, either Options A, or B, stated that his is needed in the New England state; particularly if a fixed minimum approach is not chosen for allocation. Some commented that it is a worthwhile program which presents fish kills. Finally, our last issue is the Chesapeake Bay reduction fishery cap.

There are three options here. We can maintain the cap at the 87,216 metric tons, reduce the cap to 51,000 metric tons, or Option C is to remove the cap. There are sub-options under A and B which allow for a percentage of unused cap to be rolled over to the next year. For public comment, the greatest support was for reducing the cap to the 51,000 metric tons, and having no rollovers. Those who supported reducing the cap commented that the Chesapeake Bay is an important nursery area for many species, and this is an opportunity to provide greater protection to the Bay. Some commented that if the cap is not being met there are not enough fish in the Bay; and others commented that if the reduction fishery actually caught the cap it would be devastating to the Bay ecosystem.

Those who supported maintaining the cap commented that the cap was started as a way to restrict and ultimately eliminate the reduction fishery. They commented that science shows that there is no localized depletion in the Bay, and there is no scientific basis for the cap. A similar rationale was stated for removing the cap. With that I will take any questions on the public comment.

CHAIRMAN BALLOU: Questions for Megan, recognizing that we will be returning to each of the major management issues for thorough vetting starting with reference points, after the

next two presentations. That said, John McMurray.

MR. JOHN G. McMURRAY: Megan, could you put that I think it was the third or fourth slide; it was a quote about the 40-75 percent. I think, well there it is. The Management Board may consider management measures to reach target. But there is no mandate to manage for 75 percent. If I'm reading this correctly, as long as the Board is in between 40 and 75 percent we're good. Well, maybe you could clarify that before I go on.

MS. WARE: Yes, the management trigger is at the threshold; that's what this is saying. The Board is required to take action when you hit that threshold.

MR. McMURRAY: Mr. Chairman, so there is some management flexibility when you're within those two parameters, there is no set thing that we have to manage for.

MS. WARE: The action is required at the threshold.

CHAIRMAN BALLOU: I think that's a fair characterization, the way you put it, John; other questions for Megan, yes, Craig Pugh.

MR. CRAIG D. PUGH: Megan, I noticed that there was repetition of names between the state hearings; is that commonplace? Was that accounted for?

MS. WARE: It is commonplace for menhaden, I would say. How I did those is if they attended the hearing then they were accounted for at that hearing. If an individual did attend multiple different hearings at different locations and they spoke multiple times, they got a vote. Their comment was written down at each hearing.

## **LAW ENFORCEMENT COMMITTEE REPORT**

CHAIRMAN BALLOU: Other questions. Seeing no hands; our next issue is the Law Enforcement Committee report. Megan, is that you? Okay, we'll go back to Megan for that.

MS. WARE: I'll be very brief here. Whoever was at the Policy Board meeting for annual meeting did hear this. But the LEC met to discuss Draft Amendment 3 at annual meeting. There was really no major enforcement concerns brought up by the LEC. But the discussion did focus on the incidental catch provision, or that bycatch provision. The comments were generally that there is no enforcement challenge with a trip limit. However, a simple closure of a directed fishery when quotas are met is less of a drain on enforcement resources. That's the comment that they gave.

CHAIRMAN BALLOU: Okay, any questions on the Law Enforcement Committee report; yes, Pat Keliher?

MR. PATRICK C. KELIHER: Was there any discussion about the difference between the incidental and small scale fisheries within the Law Enforcement Committee; as far as enforceability? There have been a lot of comments in Maine about the small scale fishery turning into a directed fishery, and the ability to even prosecute; just by saying we're targeting something else.

MS. WARE: There were no comments given by the LEC on that specific issue.

## **ADVISORY PANEL REPORT**

CHAIRMAN BALLOU: Other questions? Seeing none; we'll go to our last presentation; that will be Jeff Kaelin presenting the Advisory Panel report. Jeff is going to run through the whole report briefly, and I've asked him and he's agreed to return tomorrow morning to sort of refresh on the key issues that we'll be addressing tomorrow. He'll run through the

whole report now, and then he'll be back first thing in the morning to refresh. Jeff.

MR. JEFF KAELIN: Good afternoon members of the Board, members of the public. I'm Jeff Kaelin with Lund's Fisheries, and I'm privileged to sit as the AP Chair. We met on October 26. I'm not going to read the seven pages of summary that Megan prepared. It's on the table. But we will go through the slides that quickly summarize the discussion.

I wanted to thank the Chairman and the leadership of the Commission for allowing us to have a face-to-face meeting last month. It was very well attended. Several advisors are here today. Everyone has had a chance to review these slides and the report. We attempt to run these meetings on a consensus basis.

But as you can imagine, that is very difficult to arrive at in most cases, so we just simply record the comments to make sure that all the AP members have their perspective recorded. Motions are appropriate by the process outlined by Robert's Rules of Order, so we had some motions; none of which passed.

On reference points, I'll read through these to get them on the record. There were six AP members that supported Option B; stating that the stock is in good condition, so no need to alter course. Today we're fishing below the F target, and well below historic levels. The Board is already precautionary in managing menhaden. Concerns about applying generalized forage fish rules to menhaden due to lack of stock recruitment relationship and fishery selectivity, commented that other reference point options don't represent the best available science.

There was confidence in the BERP process. Ecological reference points would be appropriate when there is more confidence in the science specific to the menhaden resource. Option B supports industry and provides stability for businesses. Concerns that the

goalpost by which menhaden is managed keep changing. The final comment that increased menhaden abundance in recent years is due to favorable environmental conditions, and not the implementation of the 2013 TAC. Four members supported Option E. Generalized rules for forage fish are more appropriate for menhaden, given their ecosystem role. There is a need to leave fish in the water for ecological purposes. Option E allows the Board to fulfill the needs of the bait states, while keeping the stock moving in the right direction.

Important to implement ecological reference points now, the concern with the BERP completing the menhaden-specific ERPs by 2019. Option E doesn't prescribe how quickly the Board needs to get to the F target, so the Board can phase in management to the 75 percent unfished biomass reference point.

Comment that the 2013 TAC after that was implemented stock abundance increased, so there is a need to err on the side of caution and continue to control catch. On allocations, two AP members supported a fixed-minimum approach. There was support for a 2 percent fixed minimum, giving states that don't want a quota can give it back.

A recommendation that unused quota on November 1st be given to other states. Current allocation method prevents some states from having a fishery; including those that have fishery infrastructure. Three AP members didn't support a fixed minimum approach, moving the Commission away from a history-based allocation was argued. Method does not recognize states which have made an investment in the fishery, and that there are clear losers with the fixed-minimum approach, including New Jersey and Virginia.

Two AP members supported the allocation based on the TAC level. The argument was that if that makes states whole again prior to implementation of the TAC in 2013, and then a greater percentage can be allocated to the bait

fishery. The recommendation that the Board use the 2012 to 2016 timeframe for quota above the 212,500 metric ton threshold in Option B.

On the allocation approach, one AP member supported the 70/30 split between reduction and bait. This is Option E, the disposition quota, the freestanding option. All states have joined the Commission's compact and everyone should get a share of the resource it was argued, and that this option gives the bait fisheries more without increasing the TAC.

Three AP members didn't support the 70/30 split between reduction and bait as the freestanding Option E. Allocation option is arbitrary and not based on historic landings. Under that option it was argued. You can't transfer quota between the bait and reduction sectors without focusing on history, catch history.

Two AP members supported the 2009 to 2011 timeframe. This does not include the years when the harvest was capped under the TAC was the suggestion there. On general comments there was one AP member that recommended that trawls not be included in the small-scale fleet list of fisheries of gear types.

On transfers and rollovers four AP members supported quota reconciliation with accountability rules, Options B and C as outlined by Megan previously. This prevents a state from continually exceeding its quota. Six AP members supported quota rollovers; two supported the 50 percent rollover, Option D. Three supported 5 or 10 percent quota rollovers, but not higher, which are B and C, and stated there may be extenuating circumstances, which makes a small quota rollover reasonable. A 10 percent rollover is used in federal fisheries management, it was pointed out. One supported a rollover of 10 percent or higher. On the incidental catch there were four AP members supporting Option F, no incidental

catch fishery, concern there that the catch is not counted towards the TAC. The 6,000 pound trip limit bridged the gap between Amendments 2 and 3, but should not be used after implementation of Amendment 3.

Bycatch competes with the directed bait fishery, it was argued. One AP member did support an incidental catch limit, and pointed out that the 6,000 pound trip limit provides critical fishing time for the bait fishery. In general comments the current bycatch allowance was noted as a loophole; particularly for purse seines.

It reiterated that trawls should not be included as a non-directed gear type, and a recommendation to clarify definitions of gear types, particularly if purse seines are prohibited to harvest under the trip limit. Finally episodic events, three AP members supported the continuation of this set aside. If there is no reallocation of the quota New England needs this program.

The program should remain no matter what allocation New England gets; but should be increased to 3 percent if New England states don't get more quota. Some New England states have the capacity to harvest large amounts of menhaden; so the set aside is needed today. The set aside is further needed to prevent fish kills.

Three AP members didn't support a set aside. New England states are no longer having episodic events; abundances have been higher for several years. The set aside shouldn't be needed with allocation and a higher TAC. Episodic Event Program has just created another fishery, and this is not equitable that other states have their quota but no access to Episodic Events Program.

Quickly the AP report on Chesapeake Bay Cap, two AP members supported the status quo; saying that studies have shown the possibility for localized depletion in the Bay is small. Three



AP members supported reducing the cap to 51,000 metric tons with no rollovers; Option B and Sub-option B.

Studies on localized depletion were inconclusive and couldn't determine it was happening, concerned about increased reduction harvest from the Bay if cap is not reduced. Chesapeake Bay is an important spawning ground for many species and warrants greater protection. Concerns about the change in ownership of Omega Protein with Cook Aquaculture purchasing that company recently; an international company which may not have a vested interest in the Bay, it was stated.

One AP member supported the removal of the cap, Option C. Since there is a coastwide TAC there should be no Bay cap, and then Virginia purse seiners were already restricted from going in the majority of the Bays; in the Maryland portion of the Bay and the rivers. On the TAC, six AP members supported increasing the TAC.

This is where we had some motions, none of which were successful; very interesting discussion, all with good humor I might add, Mr. Chairman. Two supported the 280,000 metric ton TAC; comment there that one state lost access to 60 percent of the menhaden fishery due to 2013 TAC implementation. One member supported the 250,000 metric ton TAC, helping the industry, not going to hurt the stock. One supported 240,000 metric ton TAC, 20 percent increase. New England Council uses a risk policy of a 50 percent chance of exceeding the OFL, where the Mid-Atlantic has a risk policy of a P-star 40 percent. TC projections show the 314,500 metric ton TAC has a 50 percent risk of exceeding the F target only. One supported a 220,000 metric ton TAC to offset bad years in a fishery you need good years, and to the current cap TACs harvest levels in mediocre years.

Two AP members supported maintaining the TAC at 200,000 metric tons; stating that regardless of the reference points chosen the

TAC shouldn't increase under Options A and B, and don't need to decrease under Option E. The increase in the TAC could negate the progress that has been made in stock abundance since 2012, these members argued.

The AP did make a series of motions regarding these options, but as I stated earlier none passed. In general comments, and there were consensus on these points. It was recommended the AP could be better utilized by the Menhaden Board to provide information on annual changes and trends in the fishery; including AP comments in the Commission's FMP review process was recommended, in a process similar to the Mid-Atlantic Council's Fishery Performance Report.

Finally, the AP expressed concern the fishermen harvesting under the 6,000 pound trip limit today are selling menhaden from their bunt, this is a purse seine gear terminology, and not reporting landings. Need for greater enforcement at the state level was recommended. Finally, the AP recommends that in the future the Technical Committee complete multiyear projections, and that the Board consider setting multiyear TACs for two to three years. With that Mr. Chairman, I end my report, thank you.

CHAIRMAN BALLOU: Questions for Jeff on the AP report. Dennis Abbott.

MR. ABBOTT: Jeff, how many people participated in your discussion? I note that on a lot of issues there were differing amounts of opinions. Were some people ambivalent to certain things? Would you explain that a little bit to me?

MR. KAELIN: Yes, we had 12 members of the AP. For those of you who know me you may be surprised I didn't say much, as the Chairman. That changed the count a little bit. I mean I really think it's important for the members to speak. We had a quorum. I think there are about 18 members of the AP right now.

Again, I wanted to thank the Board for recently repopulating the AP. If it doesn't add up, you know some people were quiet I guess on certain matters, Dennis. But what we wanted to do is just kind of record the breadth of opinion around the table; so the numbers might not add up, and it may just be that some people were more vocal than other people.

CHAIRMAN BALLOU: Russ Allen.

MR. RUSS ALLEN: Thank you for that report, Jeff. Just a quick question and it might be better for tomorrow's discussion. But I just wanted to hear the rationale behind the one AP member not wanting to include trawls in the small-scale fisheries; if you could give me a little bit more information on that.

MR. KAELIN: Sure. I think that the feeling was that the trawl fishery can produce fish at volumes at least as large as the purse seine fishery does. Since the Board had been clear that purse seines shouldn't take advantage of the 6,000 pound incidental set aside up to this point, it was noted that it may be an oversight by the Board to have trawls listed as a small-scale gear, because of their capacity to take large amounts of fish.

CHAIRMAN BALLOU: Additional questions for Jeff, seeing no hands, again Jeff will be back tomorrow morning to kind of refresh on some of the issues that we'll be taking up tomorrow. Questions along the lines of Russ's would be particularly appropriate at that time. But again, thank you, Jeff for your leadership.

The AP has really done an awesome job right through this entire process; and through you to the members, I know the Board very much appreciates the very thoughtful input that has been provided.

### **AMENDMENT 3 REFERENCE POINTS**

CHAIRMAN BALLOU: Okay, now let's turn to the first issue under Amendment 3, which is

reference points; and open the floor to questions from the Board on the reference point options set forth in the draft amendment.

This will be questions only for now. The time for motions will soon follow. I think Megan may be putting up sort of a summary slide just to orient ourselves. But the floor is open to any questions that any Board members may have on any of the issues associated with the reference point options. Does anyone have any questions? Rob O'Reilly.

MR. O'REILLY: I wonder if we could get a brief summary of the assumptions that the Technical Committee listed. There was a recent memorandum that was provided to the ASMFC; and in that there were a number of assumptions related to the different reference points. I wonder if that is available.

CHAIRMAN BALLOU: I'm going to give Jason McNamee the microphone, Chair of our Technical Committee.

MR. JASON McNAMEE: Mr. O'Reilly, could you repeat your question one more time, just to make sure I'm giving you the right info?

MR. O'REILLY: Yes, there were assumptions listed by the TC related to the generalized approaches to the biological reference points. That was just, I think at the end of the week last week; so that would be the first part. Do you have that in front of you?

MR. McNAMEE: I think so.

MR. O'REILLY: It was things such as lack of a stock recruitment situation. There were about four or five different assumptions listed and if you have that then I'll follow up to save time. I would also appreciate hearing how A and B relate; since they're menhaden specific, what type of assumptions there are there. I realize with both there will be recruitment assumptions, but I hope that gives you enough information to respond.

MR. McNAMEE: Yes, I think so. What I think you are interested in is we refer to them as caveats for the projections. I've got that in front of me. If I had my presentation that I'm going to give tomorrow open I could get you a quicker version. But I'll do my best here. We've got a set of general caveats that apply to both; the ecological reference point projections as well as the standard projections that we run, and then a subset that is just about the ecological reference points. One of the first caveats that we noted was that the fisheries are assumed to continue from this point forward.

In the projections they're assumed to continue at their current proportions of total effort. That's important with regard to how selectivity works with the projections. Recruitment, so we're not using a stock recruitment relationship in any of the projections. It's sort of a re-sampling of the existing range of recruitment that we've seen through the time series.

But what's important about that is that we're using a median; and so if conditions are that recruitment has a series of years with low recruitment or high recruitment that is going to impact the performance of those projections. Another big one is that we're using the Baranov Catch Equation, and so that is assuming that catch is occurring for the entire year.

Changes to things like seasons and other items like that again will impact the performance of the projections; because of that underlying assumption. Just a general statement that projections, whether it be menhaden or any other fish in the sea, are highly uncertain. One other less clear one that we often include is that we are basing a lot of the projections on these functional forms; so a single selectivity function, a single recruitment function which I've just described.

What we don't include is structural uncertainty in the model itself. We include a lot of uncertainties and we sample within the range of those uncertainties; but when it comes to the

model that we're using, we're not doing a full blow simulation analysis to identify what that uncertainty might be. Then we had a set of caveats on the interim reference point calculations as well. You're interested in those as well?

CHAIRMAN BALLOU: Rob.

MR. O'REILLY: I guess in particular what I had read was since the BAM model uses a dome-shaped approach, and the generalized Pickett et al do not that with a biomass-based approach, the selectivity did not go down with age with those particular approaches, and could. In fact, there was a statement and it's been a few days since I've read it, but a statement about how that would denigrate the spawning stock, because it was on all ages. Can you comment on that?

MR. McNAMEE: Yes. What you stated is correct. That is one of the major differences between the models used to develop the generalized interim ecological reference points that you all are looking at; versus the single-species menhaden reference points that we've been working with. That selectivity is one of the big issues, or differences not issues.

One of the big differences between the two approaches. You characterized it correctly that in the ecopath with ecosim approaches, the selectivity sometimes they do split it out by groups of the ages. But in either case the selectivity is constant for those groups; whether they're a single group or multiple groups.

Whereas, in the BAM model we do use dome shaped selectivities in a couple of spots, not in all of them, but in a couple of the fleets. That statement that you made is correct. I'm a little puzzled about the linkage you made. The other comment you made is correct that with some of the interim reference points you could fish the population down. It's because those are developed without that context of the age structure; and that was through work that we

did with the Pikitch et al group, to try and create this translation between the two. That is true that selectivity is a part of that but it's not the complete cause of that.

CHAIRMAN BALLOU: Next I have Emerson Hasbrouck.

MR. EMERSON C. HASBROUCK: I have a three-part question, relative to B-0. I'm wondering the first part of the question is what is the value of B-0? Part two is how is it estimated? Then the third question or the third part of that question is what is the 95 percent confidence intervals around that estimate?

CHAIRMAN BALLOU: Jason.

MR. McNAMEE: Excellent questions. I think I will start with the middle question; because that's the one that I can answer most directly. The concept of B-0, I think you were asking, how it is estimated. The way that we generally do that and the way that we did it here for menhaden is you run a projection.

What you do with that projection is you remove fishing, so you set F equal to zero. Then you run that population forward. What's happening at that point is all of the population dynamics are being dictated by recruitment; so new fish coming in, and it's based on all of those assumptions I just talked about a moment ago and natural mortality.

That's the only removal that's occurring, and so what happens over time is that population will reach an equilibrium level. It's that battle between the removals of natural mortality and the recruitment coming in, and I've got a plot I'll show you tomorrow maybe; depending on what happens today, where you can kind of see what it looks like.

In the projections it kind of goes up and wobbles around; and then it eventually flattens out through time, and that's when that equilibrium level is reached. What that value is

you'll have to give me some time. I don't have that off the top of my head. I'll have to hunt that down. Then I don't remember your final question. I have a capacity of two questions, and then I need it repeated.

MR. HASBROUCK: Actually the third part of the question may be more important than the first part. But without the first part I don't know if you can answer the third part and that is; what are the 95 percent confidence intervals around that estimate?

MR. McNAMEE: Yes so that will also, I'll need to look at that. I imagine there are confidence bounds, although the interesting thing with these projections is the uncertainties. The further out you run it they get stable and they shrink. I would have to look that up as well. I don't know that off the top of my head either.

CHAIRMAN BALLOU: Additional questions. Was it Alison or David or both? Okay, David, I saw your hand first. David Blazer.

MR. DAVID BLAZER: I have two questions, and Jason I'll do one at a time, if that will help; because it's kind of a long question. You know there is a lot of confusion surrounding the ecological reference point options; because of the necessity to translate everything into the same currency, based on the total biomass.

This approach does not explicitly account for changes in population reproductive potential; which seems to have led to particular concern about the threshold of the 40 percent unfished biomass. In the projection memo that we got last week, on Page 3 it makes a comment that the workgroup has concerns about the use of reference points that preserve a certain proportion of a total biomass, instead of a spawning stock biomass or fecundity, because they may result in a level of spawning potential well below the fecundity limit.

It goes on to say the level of fishing pressure that reduces the total biomass to the B of 40

percent is higher than anything seen in the history of the fishery; and results in almost total loss of spawning adults. That statement indicates that Option E is kind of risky for the stock; which is a little worrisome, given the discussion that we're having today. I'm trying to get an explanation. If you could explain to me some of the issues and the risks of applying this ERP option as it goes forward.

MR. McNAMEE: That was an excellent retelling of the memo. I think you captured everything really well. I think with regard to Option E. The intent of the Technical Committee, the risk is highest with regard to that threshold level, so that is what those comments about nothing seen before in the fishery and that part of it was with relation to that threshold level.

I think you've captured that well and you're interpreting our intent well. I'm trying to think how deep in the weeds you want to get on this. I think when we received the task from the Board it seemed pretty straightforward to us. I'm sure to you all as well. But then when we sat down and started to think through, we understand this population through our age-structured assessment.

That was where we first ran into this issue of, well we need to figure out a way to translate between how the generalized ERPs are developed and the information that we have available. This was in consultation with the Pikitch et al folks, not the whole group, but a subset of them, on a call.

What we came up with was total biomass, one of the main reasons for that is it gave us a way to weight the F levels that are coming out of the model. When we give you in the single-species context the F that is occurring, sort of our benchmark F that's on a specific subset of the population that the most fishing is occurring on, and so this is different than that.

This is now taking that F and spreading it out across the population; and you need to be

careful when you do that and you need to weight it by the abundances in those various age classes. That's why we went with total biomass. I guess the final point is if you were to ramp up fishing mortality to the level that would allow you to achieve that threshold level, the vast majority of the biomass exists in zeros, ones and then as you enter in the twos the population really starts to decay for fishing and natural mortality and all of those reasons.

That is why that foible of that particular part of the ERPs exists, and that is you can really whack those older ages and drive them down to near zero; but you still have enough biomass in the zeros and ones and twos to meet that metric. But were you to then compare it to your fecundity metrics that you had been using that is where you would see that big difference.

CHAIRMAN BALLOU: Dave, did you have another question?

MR. BLAZER: I'll hold off on my second question for right now. I'm good, thank you.

CHAIRMAN BALLOU: Ritchie White.

MR. G. RITCHIE WHITE: Jason, if one was to select Option E and one was to adopt a quota that was status quo or slightly above status quo; and the plan allows us to fish over the target, so we could do that. Would it be precedent setting to fish over the target for other species?

My thought process is that it would not be, in that this is not single-species management if we select E, where I believe all the rest of our other species we manage are single-species. That is my question. Could you comment on whether you think it would or would not be precedent setting for some of the other species that we manage?

MR. McNAMEE: Me and Katie will tag team this one. I guess as far as precedent goes, I would suggest that in fact most of the federal fisheries fish to a limit and not a target; and so I think

that would be standard for how a lot of the federal fisheries are managed. I think depending on the management plan that you have, it dictates whether you manage to the target explicitly or I guess the intent of having a target is that's your eventual goal.

How long it takes you to get there and that sort of thing I think are usually negotiated within the management plan. But I guess that would be, I don't think it is precedent setting with other fisheries. Other fisheries don't have targets at all and they fish to that limit and try to stay above or below that limit; depending on which metric. But I think Katie wanted to add.

DR. KATIE DREW: Yes just to add to what Jay was saying is that in plenty of our other fisheries we actually do fish above the target; and as long as we're not above the threshold, we kind of let it go. I think striped bass is probably on everybody's mind recently, and that is. But that's because we specifically have a trigger within the plan to say if you're above the F target.

Even if you're below the threshold for a certain number of years and your biomass is between the target and the threshold, then you do have to come back down to the target. But in most of our other plans it's the threshold that triggers management, so we may or may not be above the target for those other fisheries. But you don't do anything about it until you go over the threshold; so in that case menhaden would be in the same boat as all of our other fisheries.

CHAIRMAN BALLOU: Next I have Allison Colden.

DR. ALLISON COLDEN: I don't want to belabor the point on the selectivity between the ERPs and the single-species reference points, but I did want to get clarification Jay, on a comment that you made in responding to Mr. O'Reilly's question. I think you said that in certain sectors of the fishery and in certain places that you don't apply domed-shape selectivity; and so can

you clarify in what situations how the selectivity is addressed?

MR. McNAMEE: Yes the current single-species assessment has a number of fleets. If you remember this is the first time that we had split it into north and south; then there is bait and reduction. I'm pretty sure we're using dome-shaped selectivities in the southern fleets; and the idea behind that is at certain times of the year in particular, the older, larger fish are migrating further north.

It makes biological sense to use a dome-shaped selectivity for those fisheries that are occurring to the south. In the north we're using a logistic, which would be flat-top selectivity, at least for the survey indices up there, and I think for the fishery as well. I would have to dig in to give you exactly which ones we're applying domes and which ones we're not. But there are differences within the model.

CHAIRMAN BALLOU: Follow up?

DR. COLDEN: Yes, quick follow up, Mr. Chair. Do you know at what age in the logistic selectivities that you're moving from low to high selectivity by the fishery?

MR. McNAMEE: I was contemplating just winging it, but I think that is something I could look up relatively quickly and get back to you on.

DR. DREW: Just to add to that. For the single species model for the assessment, we are using the multiple fleets. But then to develop the reference points and to do the projections, we're using sort of a weighted average of a single selectivity to combine all of those different fleets into a single, sort of averaged fleet, based on how much effort they've applied in the past and what their selectivity curves look like.

Some fleets go up and flatten out; some are completely dome shaped, and the end result

sort of average for the reference points, ends up being that dome shaped on the basis of how much effort the fisheries have applied in the past. The different fisheries are sort of composited together into a single selectivity curve for the reference points.

DR. COLDEN: Thank you.

CHAIRMAN BALLOU: Pat Keliher. Roy Miller.

MR. ROY W. MILLER: Thinking about the questions that have previously been asked, and the answers offered by Jason and Katie. With regard to Option A, obviously if I could summarize what I've heard thus far, we're not bound to manage to the F target. But there is a lot of room between the F target and the threshold. What guidance do we have when it comes to picking a TAC that will be somewhere between the target and the threshold?

DR. DREW: There is essentially nothing written down in terms of guidance then, and it would be the Board's prerogative to decide. We can give you projections and say, this is what the stock is going to look like in the near term, over a couple years, under this level of fishing pressure. We can show you some different options between the target and the threshold, which as you say for Option E is a really wide range. Then it would be up to the Board to decide how they felt about the risk, how they felt about sort of the rewards of that.

The way essentially that we've done for our single-species process up until now to discuss, here is the risk of exceeding the target, or here is the risk of exceeding the threshold, and here is the associated TAC and how do you feel about that? How does that impact the fishery? How does that leave fish in the water for ecosystem management? It would be the Board's decision to balance those different competing objectives within the limits that the projections indicate.

CHAIRMAN BALLOU: Roy.

MR. MILLER: Katie, if I could. Would you have the ability to be fairly timely in providing such analysis; were specific TACs to be suggested between now and tomorrow?

DR. DREW: Between now and tomorrow? No. That's not happening. If we knew about what you guys wanted ahead of time, and we had plenty of lead up time. It's not excessively time consuming, but we would like some kind of limits on the range of options you would like.

CHAIRMAN BALLOU: Nichola Meserve.

MS. NICHOLA MESERVE: Jay, you answered a question about the Option E threshold and putting that F rate in the context of the histories of F, and the effect on spawning adults. I'm trying to put the single-species F threshold into a similar context; that's based on a maximum rate from 1960 to 2012. Is it also higher than most of the history of fishing mortality rates, and what is the effect there on spawning adults?

MR. McNAMEE: I may be missing your question, and so how I think I'm understanding it, let me say it back to you and then you can correct me. I think you're still thinking about the Option E and where that threshold is, and trying to compare where that is set relative to what that would look like from the single-species model where that threshold would get us with regard to that. Is that kind of what you're asking?

MS. MESERVE: Yes. Essentially I'm trying to see if the difference in the point estimate between those two thresholds is very different in what it produces in the stock; and how you would compare them. There was a statement about the Option E threshold is higher than almost anything seen in history. Can the same be said also for the single-species F threshold?

DR. DREW: No. The single-species F threshold, the earliest years of the time series are not included in the years that we've looked over.

As a reminder, the way the TC developed those reference points is we took a time period when we thought the fishery was relatively stable, in terms of the yields that it was able to produce, and the population was also relatively stable, and also recruitment showed variability but did not show extreme lows.

We thought over that time period that was a reasonable set of fishing pressure. The target is the median of those years of fishing pressure, and the threshold was the maximum observed during that time period. Prior to that time period, you did see Fs in the fishery that was higher than that maximum.

There was a point within that time period the maximum is the threshold that we proposed, so during that sort of stable period we met that once in the prior to that period. There definitely was fishing pressure higher than that; whereas for the Option E threshold, it really is beyond that F value that comes out as beyond anything we've ever seen in the fishery. In terms of then translating that into fecundity reference points, which is what – so we came up with the F rate based on sort of the empirical or historical observation of the fishery, and translated that into how much fecundity would we expect sort of under long term equilibrium conditions.

I think that is 36 percent for the threshold, so you would expect to see about 36 percent of the egg production of a virgin stock. Whereas, if you translated that into the Option E, it's almost complete loss of the spawning stock or the fecundity, under that sort of long term equilibrium conditions or assumptions.

MS. MESERVE: A quick follow up. I think it's the 21 percent MST for the threshold. How does that compare to benchmarks that are used for other species? What percent are often targets and threshold levels?

DR. DREW: The fecundity estimates or the fecundity reference points are very similar to

the spawning potential ratios that you may be familiar, or SPR in other fisheries, where some of sciaenids which are quick to reproduce, quick to mature, very fecund. Those have targets and thresholds of about 20 percent to 30 percent SPR. Other species have reference points in the 30 percent to 40 percent range, in terms of targets and thresholds.

For sturgeon, we recently tried to look at one for about 50 percent. But again, being a slow to mature, long-lived species that has different, but you have a different risk tolerance for some of that life history. The 20 to 30 percent that we're seeing that we're estimating comes out of those reference points is comparable to some of our other reference points that we use for quick to mature, very reproductively capable species.

CHAIRMAN BALLOU: Robert Boyles.

MR. ROBERT H. BOYLES, JR.: I'm confused. I had my son in the woods last night hunting, and he had very specific instructions on what he was to do. The quarry came within sight. He aimed at the target. He shot. He missed; and he asked me, Dad what happens if you miss? It was kind of a profound question at the time.

We wandered around the woods last night for two and a half, three hours looking, following trails, and we made a mess. I have a son back home who is a little gun shy now, and we've got quarry wandering around the woods perhaps, wounded. Do they go on another property and make a mess for someone else?

Did they stay in the woods where we were hunting to provide biomass, feed for the system? I'm just concerned. You know we call the target a target. I think it's important that we're very, very clear about our intentions on how we manage the fishery. These are good questions and good technical questions.

Mr. Chairman, I would submit that some of these elements are more policy oriented, and I



appreciate the TC and their efforts to answer these questions. But I think I'm becoming more and more confused in terms of target. I told my son, aim for the target, aim for the target. That's what your goal is that's your objective, and if you miss there are pretty serious implications.

CHAIRMAN BALLOU: Additional questions, going next to Adam Nowalsky.

MR. ADAM NOWALSKY: Keeping with the same theme of the questions or concerns about Option E. I think we've made it very clear on the record here the earlier slide that the Board would have the flexibility under Option E to select a TAC; perhaps all the way up to the threshold, which would represent a 250 percent plus increase from where we are now.

As I look through the public comment letters, many of those comment letters that advocated for Option E, also advocated for other options in the document, i.e. no rollover, lowering of the Chesapeake Bay cap, removal of full accounting for incidental catch. That would be characterized as more conservative oriented.

I'm wondering what the sense was from the public hearings. As I look at these suggestions that we use E, which is potentially the least conservative option in this document. What is the thought that the public really expected us to do with Option E? What is the sense you got from the public hearings from input to the Commission from any other commissioners around this table today that have spoken with the members of their public, about what the public expects us to do if we select Option E?

MS. WARE: I can, I'll say briefly talk about those who supported Option E. There was support, I'll say up and down the coast for Option E. Those who tend to support Option E did see it as a more conservative approach to the management of menhaden.

They generally liked that it was an ecosystem approach, and that it was important for them to move to that now, as opposed to waiting for the BERP Workgroup to complete their menhaden-specific ERPs. There were comments in conjunction with the reference points about keeping the TAC at 200,000 metric tons or reducing it. Those were frequently comments given in conjunction with Option E.

CHAIRMAN BALLOU: I have Pat Keliher next.

MR. KELIHER: I appreciated Robert Boyles' hunting analogy. I finally understood one; and it reminded me that it's hunting season. I passed when I was going to ask my last question, and then Roy promptly basically asked the question I was going to bring forward. My concern with Option E is the fact that we seem to be leaning in the direction of knowing that we're going to be going over target; as it's associated to Option E.

I think that is problematic. While federal, Jay your comment on federal fisheries do it all the time. This isn't a federal fishery. I think it is precedent setting for the Commission to move in that direction; and I have a lot of concerns with taking that type of direction. I have many other comments associated with Option E, and I'll reserve those for later discussions.

CHAIRMAN BALLOU: Dr. Duval.

DR. MICHELLE DUVAL: Hopefully just a very quick question. If I recall correctly, as of the update to the benchmark assessment that we just received in August, even though I guess the target is 36 percent MSP Katie, that we are actually at 48 percent MSP. Is that correct as of the update to the benchmark?

DR. DREW: I don't have the number in front of me, but I believe we are above the threshold for the biomass. I believe we are above the target as well; but I don't have the numbers in front of me, I'm sorry.

DR. DUVAL: Just a follow up, Mr. Chairman. I think in terms of the associated fishing mortality rate, my recollection was that we were fishing at a rate that would allow for 48 percent of the maximum spawning potential. Not necessarily that we were actually above the fecundity target.

DR. DREW: Yes, I believe that is also true that the long term equilibrium fecundity associated with that would be about 48 percent.

CHAIRMAN BALLOU: Additional questions. John McMurray.

MR. McMURRAY: I just want to clarify what I think the public expects with E. I think that the intent, at least what the public perceives is the intent is that we would strive to manage towards 75 percent. But there is flexibility there. It doesn't have to be done in one year. It doesn't have to be catastrophic to industry. But it is a goal, and it's where the public expects us to go with this.

CHAIRMAN BALLOU: Dave Bush.

MR. DAVID E. BUSH, JR.: I guess a question, two-part question, very easy I would hope. In general for I guess the panel, as you would call it up front. How long have we been managing with the current single-species reference points that we're currently using, and what has been the general characterization of the overall biomass since we've been using them? Very general would be fine.

DR. DREW: We've been using the current single-species reference points, essentially since the last benchmark assessment. We've set the quota a few times based on that; and in general the biomass has trended up since the lows that we saw in the late '90s to the early 2000s, and it's maintained close to our SSB or fecundity target.

CHAIRMAN BALLOU: Follow out, Dave?

MR. BUSH: Yes, just very briefly. If we continued on this, I know this is hypothetical and you all have many crystal balls at your disposal. Continuing on this current pattern, using the biological reference points we have until we have something species specific, do you all see great concern in continuing with where we're headed at the moment?

DR. DREW: I think the BERP has always advocated for waiting until the reference points that are ecosystem reference points specific for menhaden can be developed. We would not advocate that if we thought that current management was detrimental to the single-species health of the stock. I think we can do what we can do with menhaden-specific reference points. It will be great and a great movement forward for the stock, but I don't think we would have advocated for that if we had serious concerns about the single-species management.

CHAIRMAN BALLOU: Are there any other questions, Emerson that would be your second, which I'm going to allow you. But first I want to make sure to give anyone else a chance to who hasn't yet asked a question to ask. I see no other hands, so Emerson, second bite at the apple.

MR. HASBROUCK: I'm a little confused as well. I thought that I had things pretty well squared away. But then in the response to Nichola's question I'm a little confused. In the document for public review, Table 1 is the reference point alternatives for Options A through E. My assumption there is that these have all been converted, if you will, to a common currency; that currency being the biomass weighted F, so that the single-species reference points in that table have been converted to this new currency. Is that correct?

DR. DREW: Yes, and that's why they don't look exactly. If you looked at the assessment update those numbers would be slightly different from what we sent out to public comment. They've

all been converted into the same scale; that biomass weighted F.

CHAIRMAN BALLOU: Additional questions on reference points? I see a hand in the audience, but we're not taking public comment; that has already been taken through the public comment period. This is for the Board's purview only at this point. Having exhausted questions, and realizing that the next phase would be motions, and given the timing. Let's take a ten minute break; biological break, ecological break, whatever suits your fancy. We'll be returning at 2:51 exactly. Thank you.

(Whereupon a recess was taken.)

CHAIRMAN BALLOU: Okay first, I think Jason McNamee was able to come up with an answer to one of Allison Colden's questions; so Jason.

MR. McNAMEE: Yes. If I remember the question, you were wondering where the logistic curve kind of peaked at what age. I looked that up and it is age 3 is where it reaches that plateau.

CHAIRMAN BALLOU: Allison.

DR. COLDEN: That is implying that the selectivity for ages 3 plus is constant?

MR. McNAMEE: For that combination of fleet and fishery, yes.

DR. COLDEN: Okay and the selectivity for the ERP options were constant at ages 2 and above? Is that correct?

DR. DREW: For the ERP options it was the dome shaped sort of composite selectivity that basically 2, 3 and 4 is where it is the maximized; and so it's much less at age 0 and 1, and less on ages 5 and 6.

DR. COLDEN: I'm sorry, for Option E.

DR. DREW: Oh, so for Option E that is how we calculated it. We used that composite selectivity that we see in the fishery from the model. If you're talking about sort of the EWE models that were used to develop those rules of thumb, those are essentially flat-topped curves that treat either all of them as a single selectivity or sort of small versus large.

CHAIRMAN BALLOU: Okay, I now open the floor to motions on the reference point options. Would any member of the Board like to make a motion? David Borden.

MR. DAVID V. BORDEN: I provided the motion to the staff. **I would like to move to adopt reference point Alternative E: BERP Workgroup continues to develop menhaden-specific ERPs with interim use of 75 percent Target and 40 percent Threshold as described in Amendment 3.**

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Nichola Meserve? It's been moved and seconded to adopt the Reference Point E: BERP Workgroup continues to develop menhaden-specific ERPs with interim use of 75 percent Target and 40 percent Threshold as described in Draft Amendment 3; discussion on the motion, David.

MR. BORDEN: I'm going to try to do this quickly, because I know we have divergent views around the table. There are going to be a lot of people that are probably going to want to speak to the point; also are possibly amendments or substitutes. I just point out for the record that the Commission has a long history of recognizing the critical importance of menhaden to the ecosystem along the coast; and particularly the two specific predator populations, namely striped bass where we've had a major focus.

I went back at one point and looked at the history of this. The history actually goes back to 2001, and I think if I dug further it would go back even further than that. In those days we

embarked on what we called multispecies management. Recently what we've done is we've kind of changed that into the efforts to focus on developing menhaden-specific ERPs.

Unfortunately, the menhaden-specific ERPs, personally I wish they were available today and we could have that debate. But that is not the case. They're not likely to be developed for a number of years. Once they do, most of the people around the table know that we will have to go through a fairly lengthy process to adopt those; which will include a full consideration of a lot of the assumptions that are included in that.

We haven't seen that analysis. One of my conclusions for making this motion in particular is that I think that process is probably going to be delayed beyond where we project it to be. Hopefully I will be proven wrong by the working group. I think this personal view that after 16 years of discussion, I think the Commission needs to get on with fashioning an ecosystem strategy on menhaden.

I think that transition, what I would view since the species-specific targets are not available at this point that we really need to begin the transition through this alternative. I would also note that the Commission has pretty wide latitude. There were a lot of really good questions Rob O'Reilly and others have raised very valid concerns about different issues.

But I would also point out that the Commission has wide latitude on where they set the TACs, which will drive what the removal rates will ultimately be. Just a few more comments, from a Rhode Island perspective menhaden are critical to the ecosystem in the state, namely because Narragansett Bay is one of the major economic drivers of the economy of the state. We have a very vibrant commercial and recreational fishery in the state; including charterboats and party boats. It's kind of the foundation of that is the state of the resource in Narragansett Bay, and that includes menhaden.

Menhaden are a critical economic issue within the state. In recent years things have gone well. We've had fairly high abundance of adults, which has been very pleasant for most of the constituents, and we've also had fairly high abundance of peanut bunker.

I went fishing yesterday in fact, and there were vast schools of peanut bunker still around, even at this point. Things are going well. But my point in making this, I think we need to start the transition from the discussion phase we've been in for 16 years, to moving into the implementation phase. I think this motion; coupled with an appropriate TAC will do that.

CHAIRMAN BALLOU: (Audience Applause) Could I see a show of hands of those who would like to speak in favor of the motion; or perhaps speak in the direction of the motion. Just keep your hands up. We're just going to put together a list, and then I'm going to alternate between pros and cons, so keep your hands up until Megan gives me the okay sign. Show of hands now of those who wish to speak in opposition to the motion. Keep your hand up, please. We'll alternate and I'll begin with someone in opposition, and I'll just start to my right. Pat Keliher.

MR. KELIHER: Mr. Chairman, I actually have a motion to substitute along with my comments.

CHAIRMAN BALLOU: Go ahead.

**MR. KELIHER: I would move that we substitute Option B: The BERP Working Group continues to develop menhaden-specific ERPs with the interim use of single-species reference points.**

CHAIRMAN BALLOU: Is there a second to that motion to substitute; seconded by Russ Allen? It's been moved and seconded to substitute Option B: BERP Workgroup continues to develop menhaden-specific ERPs with interim use of single-species reference points as described in Draft Amendment 3. Here is how I

would like to handle Board consideration of both the substitute and the main motion.

I would like to afford the Board the opportunity to consider both on an equal basis. I will take comments on both motions; alternating between those wishing to speak in favor of the substitute motion, and those wishing to speak in favor of the main motion. During the process of considering both motions, both will be amendable.

Once both motions have been fully considered, there will be a vote on the substitute in its original form or as amended. If passed it will become the main motion and be subject to final consideration. If not passed we will return to the main motion in its original form or as amended; and it will be subject to final consideration unless there are any other motions to substitute, Yes, Dennis Abbott.

MR. ABBOTT: I don't like to disagree with the Chair, but when Pat made a motion to substitute that becomes what's on the floor. I don't see that we can be discussing the main motion now, because we have a motion to substitute. I think the conversation should be around the substitute motion, and if that passes then it becomes the main motion, and if it fails we go back to the main motion. I think that would be in order in Robert's Rules. I don't think we can discuss both of these motions; because we have one motion before us, and that is the motion to substitute. Correct me if I'm wrong, or I'll look to Bob Beal for a little more guidance. I will say that the Chair does have some latitude, but.

CHAIRMAN BALLOU: I certainly don't like to disagree with my colleague from New Hampshire, but. I do acknowledge that this approach is not one that we typically follow. It is however consistent with Robert's Rules. The intent is to provide for fair and balanced consideration of the two alternatives.

If only the substitute were considered and potentially passed, then the proponents of the original main motion would not have the opportunity to advocate for and possibly improve their motion. This approach will enable the Board to fully consider both options at the same time before voting on them. That is my intent to move forward, unless there is an appeal that is my ruling in terms of how I plan to handle it.

MR. NOWALSKY: One other point of order.

CHAIRMAN BALLOU: Go ahead, Adam Nowalsky.

MR. NOWALSKY: I had heard you mention the ability to amend the main motion during this process. I would contend that should not be allowed; with regards to Robert's Rules allowing one motion at a time that we would be modifying. I don't see how we could go back and amend the original motion until we dispense with all of the subsequent motions.

CHAIRMAN BALLOU: I believe we can do it as described, but I would look to Bob Beal for at least an acknowledgement that this might be at the discretion of the Chair.

EXECUTIVE DIRECTOR BEAL: We made it farther into this meeting than I thought without having to get in the middle of a few commissioners, it's great. The initial conversation between you and Dennis, you know Option B and Option E is the crux of a lot of what is going to be talked about today.

I don't know how you can separate out those conversations. I think they are going to be intertwined regardless of how that is packaged, as far as procedurally. To Adam's point, kind of you, Mr. Chairman and Adam are both right. But I think logistically to sort out substitute motions or motions to amend, to two different motions at the same time is really hard to track.

I think if you let the conversation sort of evolve and talk about the pros and cons of Option B and E at the same time. I think that part is very manageable. But I would suggest to just have any potential amendments to motions just focus on the substitute for now; just for ease of tracking those, and making sure everybody is on the same page.

CHAIRMAN BALLOU: I appreciate that guidance. I'm going to follow it. I'm going to go forward as I had suggested, however I will take Adam's comment to heart and not allow amendments on either motion, unless or until they become a main motion. At which point they would be then opened up to further amendment. Thank you for that. I think we've reached a good compromise in terms of process, and now I'll look to Pat Keliher, who was the maker of the substitute motion for your comments on your motion. Pat.

MR. KELIHER: I made a comment earlier in the day about the precedent setting nature of it, and I do believe there is precedent setting as it relates to Option E. Option B is a continuation of Amendment 2; Amendment 2 is working. The fishery is expanding in size and in scope. When I say scope I mean geographically.

Managers already implemented precautionary reference points, while the BERP was finishing its work that was done with Amendment 2 in 2011. The statement of the problem for that action was the new reference points are intended to be interim benchmarks, while the Commission's Multi-Species Technical Committee develops the ecological reference points, so we would be continuing in that vein.

Option E, any of the options in the document, management is based on total biomass rather than reproductive capacity. While this is appropriate for the goals of providing more forage, it ignores the reproductive capacity of the stock. More biomass won't necessarily increase the reproductive output if most of that biomass is in juvenile fish.

Lastly, I would say the biomass approach ignores the known reproductive capacity of the stock, in particular ignores the known increase in fecundity with age at size. Therefore, it is inconsistent with the goals that we did set forth in Amendment 2. I have other comments, but I'll save those for a later time.

CHAIRMAN BALLOU: Thank you, and now I do plan to alternate between pro and con, and now given the new context it might be appropriate to start your comments with an indication of which option, either the main motion or the substitute you support and why. Next I have Ritchie White.

MR. WHITE: I support Option E, only if there is a TAC attached to it. I was just prepared to amend, which I'm not doing it now. I was prepared to amend that to add a quota. If Option E with a quota did not pass, then I'm willing to support Option B. My plan is if Option B fails, I'm going to make a motion to amend Option E to add a quota.

CHAIRMAN BALLOU: Next I have Steve Train.

MR. STEPHEN TRAIN: I'll speak in favor of the substitute motion, Option B. I was going to speak against Option E. I think one of the reasons I support Option B, Pat was real good about speaking about. But I hadn't decided until I got here where I was. During this meeting I heard at least three people say Option E is bad for the spawning stock biomass.

Now I'm not a scientist, I'm a fisherman, but that is one thing I learned a long time ago. If something is bad for the spawning stock biomass you don't do it. If Option B is better for that for the population of the fish, I'm for Option B.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: My comments are in regards to the main motion. You know this is an issue that we have struggled with considerably, and you know

we absolutely support the management of menhaden for its ecological role. We believe that one of the great benefits of the work that has been done by the Lenfest Forage Fish Taskforce and others is that it has raised awareness of the importance of forage species, and has provided managers with tools to evaluate the tradeoffs of different policy decisions. You know science does not tell us how to make those decisions; it just informs us what the impacts of those decisions could be. You know we support the types of approaches embodied in Option E and Option C, but we do have significant concerns about the metric, as others have expressed.

It's clear that while total biomass is absolutely the appropriate metric to meet the needs of predators; our concern is that it does not meet the needs of menhaden, and specifically that it is not protective of the reproductive component of the population that's actually producing the future biomass for predators. Other concerns have been expressed around the table about the TAC associated with the 40 percent biomass threshold, and the significant impacts that that would have on the mature ages in the population.

The department is offering extremely qualified support for Option E. Quite honestly we would prefer a metric that meets both the needs of predators and prey; which is why we are supportive of the efforts of the BERP Workgroup, and are anxious to implement the results of those efforts as soon as possible, and we appreciate all the efforts of the BERP Workgroup to date to work with the Lenfest Taskforce Members to develop the translations that we have in front of us.

CHAIRMAN BALLOU: Russ Allen.

MR. ALLEN: I'm speaking in support of Option B. I thought Robert and Pat hit some really good points that setting a target that you know you're going to exceed right off the get go is counter intuitive to what all the Boards that I've

ever served on have thought about. That really bothers me for some reason.

I thought Katie answered a question earlier really well, and that the Technical Committee, who we're supposed to listen to and we hear that constantly at the Board meetings. Listen to the Technical Committee, listen to the BERP, listen to the stock assessment folks, because they're the ones doing the work, and they're comfortable under the current reference points that we are right now.

They know that where we're going to be once the BERP group is done will put us in a better place. I don't see why we would change things in mid flow right here on something that seems to be working. You know our egg production is constantly ramping up, and I don't understand why we would change that now. It's not overfished, overfishing is not occurring. I think we're better off staying the way we are. I don't see the need to make this kneejerk reaction to reference points that aren't even menhaden based. I'll leave it at that.

CHAIRMAN BALLOU: Allison Colden.

DR. COLDEN: I wish to speak in support of the main motion, Option E. I think it provides a lot of positives, which would be helpful in managing the menhaden fishery. Some of these have already been touched on. First is the flexibility. Some of the other options that are included within the document don't include the type of flexibility that is afforded by Option E, while also applying an ecosystem context.

This is not a harvest control rule; it allows the Board to manage to a target that would be protective of the ecosystem and all of the predators that depend upon it. But we've already seen from Megan this morning that there are different methods by which the Board can reach those objectives, and I believe that we will be discussing those later.

The other one is the relative stability. In my interpretation of the current single-species reference point is that they can fluctuate, because it's based on a mean and a median the addition of additional data points, as we saw in this year's stock assessment update means that those reference points change over time, because they're informed by the information that is coming out of the surveys and the indices.

We saw particularly in the stock assessment update that the Northern Adult Index had a very strong influence on the estimates coming out of that assessment; and there were some additional comments by the TC about looking into that. I would suggest that the 75/45 percent of B-0 is the stable proportion of the population that may not be as influenced by those types of fluctuations. I want to also touch upon the comment that Robert Boyles had earlier about managing to a target. There has been a lot of discussion thus far about the threshold associated with Option E.

I would argue, as this Board seems to have done in the past is that managing to the target is really where we need to be. If we were to be discussing the single-species reference points in the same context as people are discussing fishing to the threshold of Option E, we would also be looking at dramatic increases in the TAC, which I don't believe many members of this Board would be in support of either.

In terms of looking at the single-species reference points, if we were to harp on the threshold of Option E, I would offer that we should also be considering what sort of TACs would be associated with fishing to the threshold of the current single-species reference points, and whether or not the Board members think that those levels of fishing are also appropriate.

Finally, I just wanted to bring to bear again the vast number of public comments in support of Option E. I think that it's very indicative of the

public's perception on this, how many people are following it. Obviously we have a room full of people here today; and I think that it should be within the back of all of our minds making this decision the types of activities that people wish the menhaden population can support, and the types of economic activities even beyond fishing that the ecosystem can support with a growing population of menhaden.

CHAIRMAN BALLOU: David Bush.

MR. BUSH: I guess to sum it up very briefly. I know that we've had a lot of conversation already and a lot of great points have been made. I support Option B. I'm looking at Option E, and I've heard great concern over many of the issues with it, such as an arbitrary TAC. Why would we have a target if it's irrelevant?

As long as you don't cross over the second line we're good makes plenty of sense to me, because I'm looking for direction as someone new here, trying to figure out why we're here. Why would we have a target at all if we're not going to pursue it? The second thing is the transition to an ecosystem-based fisheries management style. If we're going to do it let's do it right. Let's not just do it just because we've got to do it. Put one foot in front of the other until we get somewhere. We know where we want to be, we're headed there, and it's not like we've got another 16 years to go before we're going to see results. We've actually got fairly time-certain commitments on when this will be available to us. Thirdly, addressing the fact that we do have a roomful of folks in this room that have also seen increases in the menhaden fishery, and they want to continue to see these increases.

Those have been achieved by using our current single-species reference points; and understanding that we're going to be chasing a biomass down or the spawning-stock biomass down with Option E confuses me. It would



make no sense for us to set fire to the house we're trying to build.

CHAIRMAN BALLOU: Jim Gilmore.

MR. JAMES J. GILMORE: I'm actually not going to commit right now, because I have a feeling these things are going to be changing, so I have a question maybe to help me and maybe the other commissioner's to decide. Through the plethora of e-mails that we all got, communications particularly the last week, I think the one concern maybe with the second motion was that on paper we have ERPs coming in two years.

But a lot of the discussion doesn't have a lot of confidence in that. We've heard, well it won't be for five years, it won't be for eight years. A lot of the support on one really seems to stem from not believing that we're going to have ERPs in two years. The question, and I hate to put staff on the –

This is more a feeling from you guys, because it would be nice if we have the probability of hitting the target or whatever. What is the probability of us hitting ERPs in two years, again, I don't want a percentage but a sense that maybe you could help me and everyone else in the room decide? Are we really going to have them? I mean is there a confidence of that or is it something that will take a lot longer?

MS. WARE: I am hearing from the BERP folks at the table that they are cautiously optimistic that they will be ready for peer review in 2019.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: That was a good question, Jim Gilmore. Certainly Dave Borden started off with the main motion, and gave a number of situations that are normal to our lives, which is a lot of things take time. I am in support of the substitute motion; and the reason is I think everyone in this room is united already, some

are not as patient perhaps, and that's their choice.

I think that 2001 is a long time ago. My first memory of sort of looking at multispecies management in Chesapeake Bay was 1998. Everyone was very excited. We've maintained our excitement about ecosystem management in many different venues, and I don't think there is any reason not to continue that excitement and to look forward to it.

But we have to do it right. I'm not convinced that Option E is right, because it's not menhaden specific. About a year and a half ago or a year and three-quarters ago, I asked the Technical Committee when they came out and more or less indicated that the Pikitich et al approach was not for menhaden as such, because it wasn't menhaden specific. I came back about eight months ago; I'm using this loosely, and asked the same question, and the Technical Committee, which is a wonderful group said well, essentially we can accommodate our work to whatever we can. Whatever is put before us, and that's a good Technical Committee.

But at the same time, many of the comments that have been mentioned today are pretty startling to me. I do believe we have to manage to the target. I do believe that if we go down the route of Option E, we will have to have a situation where we look for 75 percent unfished biomass. I just believe that.

I also think that we haven't looked at the risks carefully. The risk to the reference point, I may be incorrect but I think we're at 46 percent of unfished biomass, and 40 percent is a real problem, essentially a moratorium. I also think there is a risk to the fleets, there is a risk to the communities, and I think that my timeline starts in 2010, where the Board was told it would be two to three years before we'd have the biological/ecological reference points.

But this takes time, and I think we need to make sure that we get it right. I'm not against anyone who wants Option E; it's just that I think the better course for management is to wait for the biological/ecological reference point group to finish their work. Now we hear it is 2019, a little bit of patience, we get it right. It's not going to be perfect

I think that Jay has already told us that in the workshop we had about a year and a quarter ago that you can't encompass everything into this approach. But you can certainly accomplish a lot more than we've been able to look at so far. The substitute motion is what I'm going to support, thank you.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: Originally when I raised my hand it was to amend the main motion to put a figure in there. I think that we've been hearing for some time now that overfishing is not occurring, we're not overfished and we should be increasing the quota. I thought there was a realization that we should modestly increase the quota from, presently I think it's 200,000 to some figure.

I was in support of Option E, and to put a number on that of somewhere in the vicinity of 216,000 metric tons would have been my motion. We did hear strong arguments, I thought on the one side; that even though we would be above the target we would be well, well below the threshold. It wouldn't be precedent setting, so therefore we wouldn't be doing anything so damaging. That was my original intent, and I'll leave it at that.

CHAIRMAN BALLOU: Adam Nowalsky.

MR. NOWALSKY: I think the comments, particularly from the public with regards to Option E, the expectation was clear. While it's great to hear the words of well the TAC right now is okay, or maybe as Mr. Abbott just alluded to an increase might even be okay.

That would move us further away from the target, and to Mr. Boyles' anecdote earlier, I hope that his son quickly learns that our biggest asset as human beings is to have a short memory. While that would be very beneficial to his son, I think it would be very detrimental to this Board in the not too distant future, when people are asking us why are you setting a TAC that is moving farther away from the target? That is the reason why I cannot support Option E at this time; and Option B would keep us at or below the target, which I think is consistent with the expectations of the public and the actions of this Commission as a whole.

CHAIRMAN BALLOU: John McMurray.

MR. McMURRAY: Allison covered some of what I was going to say, but I'll try to simplify it some for the public, and maybe take it a little bit farther. The public doesn't support Option B; because we have this benchmark stock assessment, a single-species stock assessment that allows us to increase, if I'm understanding correctly, by another 40 percent.

That's pretty scary, given what's happened and where we are now. With that assessment, we will continue every year to get pressure from industry to increase our quota. I'm sure that we're probably maybe will increase the quota again today or tomorrow. I think the idea with this interim 75/40 deal is to try to avoid some of that. The question is, and really this is kind of the first I'm hearing about it is the risk to the spawning stock biomass.

I think we could still go with Option E and clarify that the intent is to manage towards 75 percent, and I think we'll still be okay. I don't think it would be terribly hard to do that. Again, with the timeline, and I think everybody wants these menhaden-specific reference points and we want them quickly. But a lot of us find it hard to believe that we're going to have peer reviewed, ready for primetime reference points in 2019. They have to be

tested somehow. I'm not a scientist, I don't know that process.

But I do know that particularly if they appear like they're going to be constraining, the public is going to want to comment on them. I don't know how we do new reference points for a species, without doing at least an addendum. Anyway that is really the rationale for E, and frankly if we could get rid of some of that uncertainty I support Option E, and I think the vast majority of the public does also.

CHAIRMAN BALLOU: John Clark.

MR. JOHN CLARK: I think most of the points have been made. I mean I appreciate the concern the public has shown in support of E, but all the problems with it that have been reiterated around the table about managing, with the situation where we're already fishing above the target, and yet we're so far below the threshold stand.

For Option B, we want to manage with the best available science. Our BERP Working Group has several times come out in recommendation of continuing with the single-species reference points that we're now using until the new menhaden-specific ERPS are available. With those also, I just don't want to see another fishery that we take a reduction where we're not overfishing and overfishing is not occurring.

CHAIRMAN BALLOU: Nichola Meserve.

MS. MESERVE: I speak in support of the initial motion for Option E. Many of the points have already been raised for them, but there is a growing body of scientific work that supports the 75 percent Target and 40 percent Threshold. I feel that they provide an acceptable intermediary step to managing menhaden in the context of their environment, on our way to adopting menhaden-specific ERPs, which is the end goal from everyone around this table it sounds like. Because the Option E reference points are not specific to

menhaden, as raised some concerns from our Technical Advisors, which deserve some serious consideration.

However, it is because the Option E reference points are general that I have comfort in not immediately managing to the target and even with a possible increase in the TAC as has been suggested might be a motion to amend. There have been comments that the stock is growing and expanding since the Amendment 2 reference points have been put in place; but it's notable that the Board has not set a TAC that corresponds with that target.

The concern regarding Option E, the threshold there, it's certainly not my intention to manage menhaden to the threshold for either Option E or Option B. I feel that Option E will provide the Board with the guidance to set a risk prone TAC in the interim and safeguard the stock growth that we've seen since Amendment 2 was put in place, and support the wide age structure of menhaden that is responsible for the availability and abundance of menhaden throughout the range, including New England and the South Atlantic.

CHAIRMAN BALLOU: Dave Blazer.

MR. BLAZER: I'm speaking in favor of Option B for a couple different points, one that I think we're in a pretty good place right now as far as the fishery is concerned. As has been referenced, we've got an expanding stock. The stable harvest over the last couple years, and we're still leaving about 40 percent of the unfished spawning potential in the water right now.

To me Option B seems to be working. I don't want to change that approach. Option E, although as mentioned, I think everybody here is very favorable of ecological reference points; setting those guardrails of the target and threshold with Option E from 147,000 metric tons to a threshold of 744,000 metric tons.

Those guardrails are way too wide compared to what you've got with Option B, of only going to like a 314,000 metric ton option. To me I'm in favor of Option B. I would also like to say this discussion today just puts more emphasis on the importance of the work of the BERP Group, and I wish them all good luck and Godspeed to you.

CHAIRMAN BALLOU: Mike Millard.

MR. MIKE MILLARD: The Fish and Wildlife Service support the substitute motion; and we do so taking very seriously the first phrase about continuing to move towards ecosystem reference points. The Service is a strong supporter of that and as has been mentioned around the table several times, we really hope the Board is committed to keeping that train on track.

Second point and I hope I'm not misquoting you; Jason was I think I heard Jason say, and again this has been brought up. Option E has the potential to allow complete removal of the spawning stock biomass. That is fairly one of the more alarming statements I think I've heard around this table, and it strikes me as a rule of thumb which is probably not mature yet and ready to be put to use.

CHAIRMAN BALLOU: Emerson Hasbrouck.

MR. HASBROUCK: I support the substitute motion, Option B, and my comments are science based, based on the science that we have before us today. One item is that we heard earlier that the Technical Committee recommends that the BERP Working Group has always advocated for keeping single species until the menhaden-specific reference points are available.

Also, if we went from Option B to Option E, we would be going from a very conservative management approach for menhaden to a very high risk approach for menhaden, where the guidance from the Technical Committee shows

us that there is an 88 percent risk of exceeding the target, even at the current TAC under Option E.

Then thirdly, again in the Technical Committee memo, it states that the level of fishing pressure that reduces total biomass to 40 percent B-0 is higher than almost anything seen in the history of the fishery and results in almost total loss of spawning adults. Those are my reasons for supporting the substitute motion.

CHAIRMAN BALLOU: Senator Maker, welcome to the Board, the floor is yours.

SENATOR JOYCE MAKER: Of course I'm in favor of Option B. Setting a quota over the target, or making false targets that are not managed will land the stock in trouble if recruitment declines.

CHAIRMAN BALLOU: Andy Shiels.

MR. ANDREW L. SHIELS: I would like to speak in support of the main motion, which is Option E, and the reason for that is this provides an opportunity for the Board to seriously commit to ecosystem management. We've heard a lot of discussion about we want to get there. We all agree we want to get there. We may get there in a year or two; we may get there in three years.

This is a more realistic approach to getting there sooner and not kicking the can any further down the road. In addition, as mentioned earlier by some other commenter's, Option E gives the opportunity for some flexibility in management since there is a range, and it buys some time to get the ecological reference points developed, while not losing any ground.

In addition to that the public support for this, I think I heard the word was unprecedented. The number of public comments in support for Option E, compared to all other options is unprecedented. That has to have some weight

up and down the coast, from folks that interact recreationally, commercially through headboats, through the procurement of bait, through people that just go fish off the dock and use menhaden for crabs.

All the letters and all the correspondence we've received in Pennsylvania has been very specific, and has supported Option E. That is the first time that's happened in my short tenure with this particular group. In addition to that I would like to tell a brief story; and somebody mentioned earlier about memory. I have a very good memory on certain things, of course. A memory that I have is from the late 1970s. When I look at the updated stock assessment, and look at the graphics for biomass and recruitment, I see that the population in the late 1970s is very similar to what it is now, with a big dip in the 1990s and early 2000s. I would like to paint a picture for you that is very etched in my own memory. Even though I might be from Pennsylvania, I grew up fishing in New Jersey every weekend at the Jersey Shore. I've mentioned this more than once in the past. It is early fall in late 1970s, and it's flat calm and there are wave after wave after wave of what we call bunker, not menhaden. Schools of bunker just outside the surf zone off of Ocean City, New Jersey, literally as far as your human eye can see.

There is nothing like the roar when those menhaden all come out of the water in a school the size of this square in front of us, at the same time, because there are predators under them. It is awe inspiring. What is also awe inspiring is the first time you ever see a whale. We never saw whale before, but there was a whale in the middle of the pack of one of these schools of bunker.

They came out of the water; the whale came out of the water. We had bluefish and weakfish and sharks. We were pounding the bluefish and weakfish, it was epic. It's one of the best days we've ever had. While we're in the midst of

this late in the afternoon, here come some airplanes, zipping along just above the water.

My Dad says, "Those are bunker planes." What's a bunker plane? "Those are bunker planes, they spot the fish, and the nets will show up after." We get up early the next morning, because we had such an epic day and evening the night before. We're ready to roll, and what do we see when we get there? I don't remember what the rules were off the Jersey coast back then.

I thought you weren't supposed to net within two miles of shore. But the boats were there, the bunker was gone, the predators were gone. That image sticks in my mind through this entire discussion; and that's the lens that I see this through, because I can picture what an abundance of bunker can do.

From the reports I've seen on the internet, what I've heard from people who have testified up and down the coast in these last two or three years. They're seeing the same thing that I saw once in my life, and they're seeing it throughout the range. For that reason I support the first motion and Option E; because I can picture what this can become. Thank you very much for my time.

CHAIRMAN BALLOU: (Audience Applause) Thank you, thank you. We need to continue on, thank you. Doug Brady.

MR. W. DOUGLAS BRADY: I'm just trying to get my arms around Option E. I mean I think we are all for moving toward ecological reference points. I don't think there is anybody on the Commission that wants to slow that down or is not in favor of getting to that as quickly as possible. Now, maybe I'm wrong.

But I'm having a hard time, unless with Option E saying we want to support Option E, but we don't want to pay attention to the 75 percent Target or the 40 percent Threshold issues that drive what that will be. We want to feel good

that we are adopting BERPS, but we're saying we're going to throw the rest of it out.

We're not going to reduce the TAC. Maybe there are people; I think we just need to be frank. If you adopt Option E, you may support dropping the TAC to 143,000, I'm not sure. I think we need to say that if that is why we're wanting to support Option E. If not, we're just saying we're going to adopt Option E, because we feel good about getting quicker to saying we're adopting ecological reference points, although they are not menhaden specific. But we're not going to pay any attention to what Option E says. I mean I just don't understand where we're going with that one. You know we talk about where we are in the menhaden abundance. I think everybody agrees that the stocks are in great shape.

They've been managed with a stock-specific reference point; and they are in good shape. Can they be in better shape with the BERP, with the ecological reference points that we'll get to three years, or hope two to three years down the road? Of course, and I think everybody supports that. But I just cannot support moving to an option that says, this is what the option says we're going to do from a Target and Threshold perspective, but we're not going to pay any attention to that. For that reason I support Option B.

CHAIRMAN BALLOU: Are there other members of the Board who have not yet spoken; who wish to speak on this issue? Yes, Marty Gary.

MR. MARTY GARY: I would like to speak in support of the substitute motion. For our jurisdiction and our 20 pound net fishermen, the current status quo allows us with our quota and the bycatch allowance to get through the season to provide bait for our crabbers, to provide bait for our charterboat fishermen.

By going to the alternative for E, it would be counter intuitive to not manage to the target; so I'm assuming that we're going to do that and

by doing that that would upset the fragility of our fishery, and risk the season for our pound net fishermen. I cannot support the original motion, and I would support the substitute motion.

CHAIRMAN BALLOU: Again, before I go to any members of the Board who wish to speak a second and final time, I'll ask is there anyone on the Board who has not yet spoken who wishes to speak? Seeing no hands; I'll go to Robert Boyles.

MR. BOYLES: If I may quote the author, Oliver Wendell Holmes, who said "I find the great thing in this world is not so much where we stand as in what direction we are moving." I too appreciate the vibrant and robust public comment and public engagement that we have seen from our constituents, who have come here today.

On behalf of the Board, thank you everyone who has commented, everyone who has come here today. I find myself in the position, I support both motions. I think Doug Brady said it rather well. We've committed to moving to ecosystem reference points, and that is something that I think we should not lose sight of.

That train is on the tracks. It is my great hope that in fact in two years that we will see that submitted for peer review, and then we will update menhaden management accordingly. Given that we are now with the substitute motion, I will support the substitute motion. I think it's important that we recognize, I have a very, very difficult time in trying to share with you all the illusion of my son; frantic, pacing around the woods last night, having missed his target.

I just think it is very, very important that we be honest with one another. I think it's important that we be honest with our constituents, and I think it's important that we be honest with the 160 some odd thousand people who weighed in

on this discussion. I want us to do ecosystem reference points. I don't think there is any argument about that around the table. But I think this is important that we do this; that we do this right. We had a very important meeting that came out of a recent noncompliance finding.

I think now more than ever, it is important for us to be intellectually honest with our constituents, intellectually honest with each other, and do the right thing. I support both motions. The question before us will be the substitute motion, so I will support that.

CHAIRMAN BALLOU: Are there any other comments before I call the question? Dennis Abbott.

MR. ABBOTT: I was just going to say, I think everybody probably has their mind up. It might be time to take a vote, and I would like to request a roll call vote.

CHAIRMAN BALLOU: We'll caucus for one minute, and then we'll vote and it will be a roll call vote. All right I'm going to call the vote. I'm going to ask Megan to go down moving north to south. Megan.

MS. WARE: All right, Maine.

MR. KELIHER: Yes.

MS. WARE: New Hampshire.

MR. ABBOTT: No.

MS. WARE: Massachusetts.

MS MESERVE: No.

MS. WARE: Rhode Island.

MR. BORDEN: No.

MS. WARE: Connecticut.

MS. COLLEEN GIANNINI: No.

MS. WARE: New York.

MR. GILMORE: Yes.

MS. WARE: New Jersey.

MR. ALLEN: Yes.

MS. WARE: Pennsylvania.

MR. SHIELS: No.

MS. WARE: Delaware.

MR. CLARK: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: PRFC

MR. GARY: Yes.

MS. WARE: Virginia.

MR. O'REILLY: Yes.

MS. WARE: North Carolina.

MR. BUSH: Yes.

MS. WARE: South Carolina.

MR. BOYLES: Yes.

MS. WARE: Georgia.

A.G. "SPUD" WOODWARD: Yes.

MS. WARE: Florida.

MR. JIM ESTES: Yes.

MS. WARE: NOAA Fisheries.

MR. PETER BURNS: Yes.

MS. WARE: U.S. Fish and Wildlife.

MR. MILLARD: Yes.

CHAIRMAN BALLOU: **The motion to substitute passes 13 to 5; it now becomes the main motion.** Is there any additional discussion on what is now the main motion? If not, is the Board ready to vote on this as now the main motion? Allison Colden.

DR. COLDEN: I just wanted to add one quick observation relative to the stock assessment update under the current single-species reference points; and that is we're not currently meeting the fecundity target for the stock under the single-species reference points. I hope all the comments that have been made that were relative to the previous motion in Option E, in terms of managing to a target will remain true when we move forward with this as the main motion.

CHAIRMAN BALLOU: Robert Boyles.

MR. BOYLES: I would like to motion to amend, please.

CHAIRMAN BALLOU: Go ahead.

MR. BOYLES: **Mr. Chairman, I would like to amend the motion to tie this to TAC specifications for the next two years; that the TAC specification would remain at 200,000 metric tons.** (Audience Applause)

CHAIRMAN BALLOU: Moved by Robert Boyles, seconded by John McMurray to amend the motion to add that the total allowable catch for the menhaden fishery shall be established over a two-year period at 200,000 metric tons. Do I understand your motion correctly?

MR. BOYLES: Yes, sir.

CHAIRMAN BALLOU: Discussion on the motion to amend. We are obviously now moving into the TAC issue sooner than I had anticipated; but it certainly is in order to do so, if the Board feels comfortable doing so. If not, we can suspend and take up TAC separately. Really by your vote on this, you would be dispensing with the issue of specifications for the fishery and there would be no returning to this tomorrow. I'll just pause for a second and again ask if there is anyone who wishes to comment on this motion to amend. Jim Gilmore.

MR. GILMORE: I apologize, but could you remind me of the modifications to the agenda in terms of the sequence we're going to be doing this.

CHAIRMAN BALLOU: We are in sequence now in that I had asked, well it's arguable. We're in a gray area right now, I'll say that. I had urged that the Board deal first with reference points; then with the rest of the issues, including TAC, including allocation. This does change that dynamic, but it's the will of the Board as to how you would like to proceed. Thank you for reminding me that this is not exactly the way that I had urged we go forward; but I think it's close enough, in terms of the way the agenda has been laid out that it's in order. Rob O'Reilly. MR. O'REILLY: I'm not sure I would call this a point of order, but when we went to the agenda earlier the request was made to take the ecological reference points or the biological reference point issues first, and then subsequently look at the TAC specification, and then after that look at allocation.

Again, I can understand that while yes the TAC is coming second here. But I had envisioned that we would also have a situation where we were able to debate at the TAC independently of the ecological reference points or biological reference points. This greatly bears on the third step, which is the allocation. It has obviously implications.



We've heard at least one comment that we're underachieving on the quota that we have on the total catch, in that we're not keeping up with what the assessment says the capabilities could be for a quota. Certainly, 200,000 metric tons would be underachieving. I was hoping we would have that discussion as well. Again, a little different than what was expected.

CHAIRMAN BALLOU: I thank you for that and I think it's clear that given the nature of this amendment, it speaks to both process and substance. It speaks to the Board's willingness to take on a shift in order, which Rob just spoke to, as well as the substantive issue of what the TAC should be.

If this were to be approved, as I said earlier, and then of course it becomes the main motion. It would have to be voted on again. But it would dispense of the specification setting discussion. If it were to be not approved, we would be back to the main motion solely on the issue of reference points, and we would then take up TAC separately. I think that really is the two-part aspect of the motion to amend that is up on the board. I saw some hands up. Dennis Abbott, you were one.

MR. ABBOTT: Though I don't disagree with a quota of 200,000 pounds as it probably affects my little state. I see us if we pass this, well back up a little. I think there was an expectation when we arrived here that we were probably going to try to do what we could to make the states a bit more whole.

We were going to try to do something to help the state of New York with an increased quota, and I know Maine wants quota. Adopting this and then getting into tomorrow's discussion about who's going to get the numbers when we've talked about allocations. No one will accuse me of being a friend of Omega Protein, particularly I'm only a friend of equity, because it's my strong belief that when we advantage someone we're going to disadvantage someone else.

By adopting a quota of 200,000 pounds and then getting into tomorrow's discussion. There may be a lot of people who end up feeling very disadvantaged. I'm concerned about where 200,000 gets us; because it really is going to put us in an adversarial mode tomorrow when we're trying to give some of the states what they surely deserve. One of the outcomes of this should be some sort of equity.

I liken this to the fact on the one hand that one state has been getting a very high proportion of the catch, and things have changed. It's like the geese are migrating down to the Chesapeake Bay area for years and the good hunters like Robert Boyles is shooting them all down there. Now, those geese are landing in New Hampshire on the one hand, and we can't shoot anything because we've never had any quota. What my point is, I think if we vote this in we're really setting ourselves up for some battles tomorrow.

CHAIRMAN BALLOU: Are there any other comments on the motion to amend? David Bush.

MR. BUSH: I know I'm sitting precariously close to the maker of the motion. However, I might remind him of the story I heard recently about setting a target. This seems to achieve just that. We've set a target and then we've sort of disregarded that target and decided something else.

CHAIRMAN BALLOU: Any other comments before I call the question? *This is on the motion to amend, and I'll read it into the record. **To amend to add to set the TAC at 200,000 metric tons for the next two years (2018-2019), 30*** second caucus and then we'll vote on the motion to amend.

MR. ABBOTT: Request for a roll call.

CHAIRMAN BALLOU: We'll have that roll call vote.

MS. WARE: NOAA Fisheries.

MS. WARE: Connecticut.

MR. BURNS: No.

MS. GIANNINI: Yes.

MS. WARE: Florida.

MS. WARE: Rhode Island.

MR. ESTES: No.

MR. REID: Yes.

MS. WARE: Georgia.

MS. WARE: Massachusetts.

MR. WOODWARD: Yes.

MS. MESERVE: No.

MS. WARE: South Carolina.

MS. WARE: New Hampshire.

MR. BOYLES: Yes.

MR. ABBOTT: No.

MS. WARE: North Carolina.

MS. WARE: Maine.

DR. DUVAL: No.

MR. KELIHER: No.

MS. WARE: Virginia.

CHAIRMAN BALLOU: **The motion fails 5 to 13. We're back to the main motion.** Is there any further discussion on the main motion? Seeing none; is the Board ready to vote on the main motion? Is there a need to caucus? Seeing no need; is there a need for a roll call vote? Seeing no need; all in favor of the main motion please raise your hand.

MR. O'REILLY: No.

MS. WARE: Potomac River Fisheries Commission.

MR. GARY: No.

Keep your hands up, please. Hands down, thank you. Those opposed please raise your hand. Are there any null votes? Are there any abstentions? **The motion passes 16 to 2; with no abstentions and no null votes.** I take this to mean that we have completed our work on reference points, and given the time we now have to decide whether we want to forge ahead.

MS. WARE: Maryland.

MR. BLAZER: No.

MS. WARE: Delaware.

MR. CLARK: No.

MS. WARE: Pennsylvania.

MR. SHIELS: Yes.

We do have time left in the agenda, so it seems like the appropriate thing to do. Let me just confer with Megan for a second, just to make sure I'm clear on what would be the next step. All right, so here is what we're going to do. Given the way I had suggested the agenda should go, we are now essentially at specification setting.

MS. WARE: New Jersey.

MR. ALLEN: No.

MS. WARE: New York.

MR. GILMORE: No.

By the way that was pursuant to the Board's agreement to modify the agenda; to now do specification setting. To launch that part of our meeting, Jason McNamee I believe has a presentation and we'll ask Jason to provide that. Then we'll have time for questions afterwards. We'll be at ease for five minutes while Jason gets ready.

Please don't leave the room or go anywhere. We're just going to be at ease for five minutes.

**SET 2018 (EITHER SINGLE OR MULTI-YEAR)  
ATLANTIC MENHADEN SPECIFICATIONS**

CHAIRMAN BALLOU: Okay, the next item on our agenda, given the change made to the agenda is to Set 2018, either single year or multiyear Atlantic menhaden specifications. To begin that part of the agenda Jason McNamee, Chair of the Technical Committee has a presentation. Jason.

MR. McNAMEE: Not that I wasn't paying rapt attention to the discussions that were going on, but I slimmed this down from the original version, so it should be pretty quick. It is something that you all have seen a couple times already; because we are now back to the original reference points. I thought I would start off just refreshing folks on current stock status.

Here is a look at current stock status with the single-species reference points with regard to fishing mortality. You can see we are under both the target and the threshold. This is based on the update assessment from 2017. This is what is the fecundity reference points. You can see we are above the threshold but below the target; though closer to the target than the threshold.

A couple of slides on the methodology, again I've said this to you guys probably about a dozen times over the past year and a half. I'm going to go pretty quick through these. But the way that we run the projections is we have a

Monte Carlo bootstrap run from our base assessment. This one of course is based on the 2017 update.

That is the basis for the projections. The original standard projections were run under the Board requested scenarios for four years since the terminal year; so that's 2017 through 2020. The starting conditions include initial numbers at age, which were estimated numbers at age for year 2017 from the update assessment for each of the Monte Carlo bootstrap runs.

It kind of goes in and it grabs one of these different runs, and that's how we are getting the uncertainty around those estimates. Just to put a fancy equation up on the board, here is what the numbers at age look like, and the main takeaway here, we should have showed this slide to the gentleman we were talking to on the break.

You can see you've got your numbers at age, and that decays based on Z, which is total mortality, and so that is both fishing mortality and natural mortality. That is how those age classes progress from year to year. Natural mortality for each of the projections was a vector, again from each of the Monte Carlo bootstrap runs.

Selectivity also a vector also has uncertainty around it, and those are selected for each of the fisheries northern and southern fisheries. Those are from the last time period; so some may recall that we have a set of blocks within the model that we estimate separate selectivities for, and they're based on changes to the fishery.

For instance, the reduction plants up and down the coast going out of business or closing up shop, and so that's all in the assessment document. But just so you know, we are grabbing the selectivity from the most current period of time. Fishing mortality is estimated to

match the annual landings for the constant total allowable catch projections.

The annual landings are calculated using the Baranov Catch Equation and the weight of those landings; so we convert everything into weight. The recruitment is projected without an underlying stock recruitment function. It's based on the median recruitment observed for each of the runs. Then variability is included as a deviation from that median; and it's selected randomly with replacement from each of those Monte Carlo bootstrap runs. The outputs that we get include fecundity, fishing mortality recruitment, and landings. You can ignore those sub bullets now.

Fecundity is the number of fish in each age times the reproductive vector at age; and so we have information on the level of maturity for each age class of menhaden, and that's how we're deriving our spawning stock biomass and then applying an equation that gives us the number of eggs each of those can produce.

Specifically, maturity from the final year of each of the runs, we assume a 50/50 sex ratio and a mean fecundity at age were used to produce the reproductive vector at age. Back into the caveats, I gave you these already today so I'll go really quickly. There is no structural or model uncertainty considered.

All of this information is conditional on a set of functional forms. The fisheries were assumed to continue at their current proportions of allocation; and so the bait and reduction fisheries are assumed to continue proportionately like they are now. If future recruitment is characterized by runs of large or small year classes, this would impact the information coming out of these projections.

Again, the projections apply the Baranov Catch Equation, which assumes mortality is occurring throughout the year, and so changes to that assumption by way of seasonal closures and things like that would affect a performance of

the projections. These are the projections that we have run. These were tasked to us by the Board.

You asked us for six versions of increasing the TAC, and so what you see in this table is what the current TAC is, 200,000 metric tons, and then you asked for a series of increases to that TAC from 5 percent, 10, 20, 30, and 40. What you see to the right are the TACs associated with those increases from that 200,000 metric tons.

Then what you see in this chart is the risk of exceeding the target. You can see there is a certain level of risk of exceeding the target for each of these variations on what you wanted to see. They increase as you increase the TAC, not shockingly; that risk decreases as you go forward in time, and that's because that recruitment is coming in underneath to bring that population size back up.

Here is the same structure as the last table, but in this case what you're looking at is the risk of exceeding the F threshold. Here you can see there is virtually no risk of exceeding the threshold for the first three runs that you wanted to consider; and then very small risk for the remaining three. You also asked for a set of projections that were based on risk; and that is risk of exceeding the F target.

The first one you asked for was a 50 percent probability of being below the F target in 2018, and then a 55 percent and then a 60 percent. What you see to the right of the descriptions are the TACs associated with those varying degrees of risk. The risk is decreasing as you go down the rows. Just a quick slide or two on the graphs, and this is not necessarily, well this one is. What you're looking at, we wanted to explain again what we're trying to indicate to you is the uncertainty that we're estimating with all of these different metrics. The first two arrows that you see up there are the 75th and 25th, I'm sorry the 95th and 5th quantiles. In this case we're looking at the recruitment. If

Max should click one more time that is the 75th and 25th quantiles, and then a final click gets you to the median. In our normal context that median is the answer, like that is the point estimate that we're usually looking at.

But it's important to note that it is actually not a point estimate. There is uncertainty around that middle zone. If you now go to the next slide, what I wanted to show you here was there were a lot of questions about our new memo with the ERPs and what you are looking at. I think it's still worthwhile in case we revisit this in the future.

Max, if you click that is the fishing mortality rate plot from the previous set of plots I was just showing you. What you are looking at in the newer memos was a cross-section from a single year, and so that red line is kind of a slice through 2018. Then as you click again, Max, here are the new plots, what they look like.

You can probably click I think three more times, four more times. These line up with what were horizontal lines on the old plots, are now vertical lines, but they match. I just wanted to give you a sense of that and it will allow you to interpret that information a little bit better. But that's it. I'm not going to tick through all of those plots. With that I will stop and answer any questions.

CHAIRMAN BALLOU: Excellent presentation as always. Questions for Jason on the presentation, yes Allison Colden.

DR. COLDEN: Hopefully this gets back to some of the process questions, but I just wanted to have a clarification. Jason, you said that these projections can change with any changes in assumptions about the fisheries or the allocation among sectors. Can you provide some sort of insights on what parts of the model would you expect to change, or how you would expect the projections to change, considering several of the allocation options, which we will be taking up after this would

presumably set different proportions in terms of the fisheries and the various sectors?

MR. McNAMEE: It's a good question and thank you for paying attention to our caveats. We're often not sure if people are actually listening to those. I think to illustrate the example; I think your question was directly relating to how the fishery might change. A lot of it stems from the selectivity that we have in those assumptions; and remember that those are static.

They have uncertainty around them but they're a static functional form that we're using for each of the projection years. If the fishery were to shift into one of the fleets where if you had a fleet that had a let's say logistic flat-top selectivity, and the amount of harvest that was occurring in that fleet were to increase that would change a lot of the information that goes forward now into the subsequent years of that projection.

In other words, that protection that would be offered by a dome-shaped selectivity function for those older year classes wouldn't be there anymore, they would all be, if that assumption is correct, those fish would be equally harvested by the fishery at that equal selectivity rate. That's what we're talking about there. Those are things that kind of impact, and if that were to occur that would reduce whichever fleet you're talking about, it could reduce the number of adults and then that would feed back into the projections as less adults, and that would bring fecundity down as an example.

DR. COLDEN: Is it fair to say that moving into this discussion there is an additional level of uncertainty associated with these projections; because of the opportunity to change the allocations after the TAC is specified?

MR. McNAMEE: Yes that is exactly the point we are trying to get across for a couple of reasons. It impacts the performance of the projections, and so when we come back in year 3 and stock status is different than what we anticipated per

the projections, this would be one of the reasons why that can happen.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: My question is, Jay I think you did the risk analysis back for the February, 2015 meeting. I think that may have been the initial time that you did the 5, 10, all the way up to 40 percent. Has very much changed in the interim time period, in terms of the risk? You may not have that with you, but I mean just sort of qualitatively?

MR. McNAMEE: I can answer that very specifically, and that is what you're looking at up there is exactly the same thing that you were looking at back then. That hasn't changed.

CHAIRMAN BALLOU: But just to clarify, Rob. I think you said 2015. There was a memo underlying these projections based on the stock assessment update, and that memo was provided to the Board and reviewed at our August meeting. I don't think anything has changed from that memo, but I think things have changed since the prior 2015 memo and associated projections. Go ahead.

MR. O'REILLY: That was my question, and I know Jay didn't bring everything with him, but that was the first time I think we saw the risk.

MR. McNAMEE: Yes, so sorry about that Rob. I didn't mean to misinterpret, I thought you were asking about the existing projections based on the update. Yes, I do not have that. I mean I could, not right now on the spot, if there is a chance to chat afterwards I can look that up quickly, and I can let you know. I mean there was a big shift in our understanding of the population based on that update assessment, and we talked about that a little bit earlier.

CHAIRMAN BALLOU: Go ahead, Rob.

MR. O'REILLY: Here is where I get in a little trouble with this next question, because I think

I've asked it before and it's not an easy one to ask, but your portraying risk. But does risk occur on either side of that type of a projection? In other words, when you say 240,000 metric tons has a 2.5 percent risk to exceed the target. Not to call confidence intervals, but is there anything else besides that sort of finite line of risk? How does that work?

MR. McNAMEE: I think I understand your question. All of the proportions that we're talking about, with regard to risk, are from a symmetrical distribution. I think you said 2.5 percent, let's make the math easy. If it was a 2 percent risk of exceeding some target there would be, if there was a 2 percent risk of exceeding it that would mean there is a 98 percent risk of probability of not exceeding it.

CHAIRMAN BALLOU: Emerson Hasbrouck:

MR. HASBROUCK: Just to follow here; Jason, thank you for your presentation. I'm wondering in the memo that we're referencing here, in terms of the risk. Is that the June 30 memo from the Technical Committee, does anybody know?

CHAIRMAN BALLOU: That's correct, Emerson, and unfortunately it's not in the meeting materials for this meeting. It was in the meeting materials for our August meeting. Additional questions for Jason? Seeing none; what I would like to do now is offer the public an opportunity to comment on the issue of specification.

This was not an Amendment 3 issues per say, as such it was not subject to public review and comment during our recent comment period. I think this would be an appropriate time to offer the opportunity for anyone that's here today from the public who wishes to comment on the issue of specifications to do so.

By a show of hands, is there anyone who would like to do that? I see at least three. Could you please come up? The microphone is up in the

corner here, the public microphone, and I'm pointing to it. I don't know if you can see where I'm pointing; if you could just come up, and actually it would help if you sort of lined up.

Maybe those waiting could be on the side over here, and as each speaker is done the next person could slide right in. I would appreciate it if you could limit your comments to a minute or two, just given the number of people who apparently would like to comment. Please introduce yourself first. Welcome. You'll need to press the button.

DR. PAUL SPITZER: Okay, well somebody has got to go first, I guess. My name is Paul Spitzer; I'm an independent scientist. I live over on the eastern shore of Maryland on the Choptank River. Over the last 50 years I've studied the biology of ospreys, which in many areas from Virginia up to southern New England have a heavy dependence on menhaden.

The last 30 years I've studied the migration and winter biology of loons, which from the Carolinas up to Chesapeake Bay also take a lot of menhaden, running heavily to peanuts. My particular question today actually is mostly addressed to Lund Fisheries, because Lund has initiated a winter trawling harvest of fish off New Jersey, and the way this relates to the model is the question of R, and how R might vary, how management strategies might vary over the course of the year.

As I learn my menhaden biology down in Beaufort when I was a visiting scientist there, although reproduction occurs throughout the year, it's concentrated heavily in the winter season, and also the recent papers Buchheister and Miller suggest that these northern populations which are showing recovery now, may be self-generated.

Therefore, I'm suggesting there may be a possibility of risk in winter trawling off of New Jersey by Lund and any other agents. Again, the issue of what the R might be specific to the time

of year of harvest and then the larger question that this is not quite as much a uniform, broad Atlantic population as the book might have suggested it is that the emerging data on that suggests that it's more complicated than that. Thank you.

CHAIRMAN BALLOU: Thank you. The next speaker is welcome to now take the microphone. Welcome, and please introduce yourself.

MR. KEN PINKERT: Good afternoon, Mr. Chair. My name is Ken Pinkert, and I've been traveling this Atlantic Coast for the last 33 years on a menhaden boat with Omega Protein. I also serve as Vice President of United Food and Commercial Workers Union Local 400 out of Landover, Maryland; representing myself and coworkers on these vessels.

My concern, I fully supported Option B, and my concern is that it does give the science that's necessary and it's good science, it seems. But we haven't gotten back the 20 percent we were cut three years ago, four years ago maybe. We were actually cut 20 percent. What we have to think about with bunkers, as we call them, and others around the table call them.

We are paid by how many bunkers we catch. Either way, any decision that is made by this Commission is made by the Council at actual dollars in my membership's packets and in our family's livelihoods. I would like for you all to be conscious of that as you make decisions, either way that you make them.

Normally I would have yellow shirts, I'll have you all know, a couple of busloads of them, but they are actually out there fishing. This is the first year in my 33 years on the Atlantic coast that we've had four named storms in less than three weeks-time, two named storms in one week on the Atlantic coast. That affects us as a resource. That's one of the other variables that we have to consider when we take jobs on these vessels that are dangerous jobs. Just be

mindful of that as you make your decision today, and I appreciate your support.

CHAIRMAN BALLOU: Thank you; next.

MR. JEFF REICHLE: My name is Jeff Reichle; I'm the Chairman of Lund's Fisheries in Cape May, New Jersey, and I would like to first address the statement made by one of the previous speakers, and just let him know that even though, first of all it's not our boat. The boat's owner-operated vessel are trawls in the wintertime, been fishing with us for generations. The quota in New Jersey is strictly limited for trawl. I think it's less than 5 percent of the New Jersey quota is allowed to be trawled.

That 5 percent is shared with other fisheries as well, so it's very, very limited. First of all I would like to thank this group for voting for Option B; I think that's the best way to go forward at this moment, until we get a little further down the road move to act something like Option E. I would hope that we would pick one of the, at least middle to higher ranges of options that were put up before you here not too long ago. I would like to remind the Board that in 2012 or 2013, New Jersey took a 60 percent cut in our quota.

Our boats and the people that work on those boats, and the people that work in our plant went from starting work in April and finishing in October, to starting work in April and finishing before the end of July. The economic impact on our company and the people that work for us was pretty huge. If we managed the resource well, which it certainly looks like we have, we should get an increased quota. Thank you.

MR. THOMAS LILLY: Ladies and Gentlemen of the Commission, I'm Thomas Lilly; I live in White Haven, Maryland, and I would like to speak to you and recommend that if you do make a change in the TAC that you be conservative. Any change in the increase in the TAC, as you

well know, will be felt by us in Maryland, more than any other state.

We are the state that is on the receiving end of the loss of menhaden. We have a terrible menhaden deficiency in the Maryland Bay. I'm an old guy. Twenty years ago I can remember going out on the Bay and seeing those beautiful schools of adult menhaden that may have stretched, you know three-quarters of a mile.

Now, you won't find menhaden schools in the Bay. Recent fishing has shown us that our rockfish, it's a 20 inch limit right now, and nine out of ten of them have empty stomachs. They are fighting like crazy to find something to eat out in our Maryland Bay. The same thing is true of our ospreys.

This Commission is not studying the effect on the Maryland Bay of what the factory fishing people are doing. We don't know how many of those schools, and keep in mind that Omega takes thousands, thousands of those schools of adult menhaden in their purse nets, not hundreds but thousands. We don't know if any of those schools are making it into Maryland.

There is no evidence that they are. We don't know whether Omega is taking 50 percent of the fish that should be coming into Maryland, 80 percent, 90 percent, it's not being studied. It should be studied. People in the Maryland Bay, millions of people, a lot of saltwater fishermen, and our communities are suffering. You know I can just leave you with this thought. We want our menhaden back. Thank you.

MR. STEVE WEINER: My name is Steve Weiner; I am the Chairman of CHOIR, which is a coalition that is focused pretty much on herring in Gulf of Maine, Georges Bank, New England, founding member of East Coast Tuna, founding member of Atlantic Bluefin Tuna Association. I've been harpooning tuna fish for longer than I want to remember.

I would advocate, had I been able to speak on the reference points, I would have advocated



for E. I think what I heard was, I guess what I heard, and well that's a dangerous option because it's got such a wide range between the targets. In other words it could be a high number; it could be a low number.

I advocate for it to stay at 200,000 as a Mainer. Seeing menhaden when I was a kid and periodically during my life, there are more of them there now than there has been in a long time. It's probably got as much to do, I guess with Mother Nature and environmental situations, as it does good management. But it seems awful coincidental that as you took a reduction in catch, that we've got more fish north. I think this group has to look at the spatial concerns of all the members.

Having menhaden ranging pretty much from the backside of the Cape all the way to downeast Maine, and my guess is if we manage them properly in the future they're going to range even further east. You have an obligation to all of us in New England, in northern New England to keep this quota at a safe place and I hope you do it. I was disappointed at the last discussion that none of us had an opportunity to say something about reference points. This discussion today kind of changed what was going on; and I think it changed the situation so some of us in the public should have been able to speak to it.

I really think it felt like a pretty hypocritical discussion when E was shot down; that somehow it was the more dangerous option. No way was it the most dangerous option. This group of people has the ability to set the quota, whether it was B or whether it's E. It could have just as easily been E with the responsible.

CHAIRMAN BALLOU: Sir, we're on specifications now. We've already dealt with reference points.

MR. WEINER: Okay, I hope you keep it at 200,000. Thank you.

CHAIRMAN BALLOU: Next.

MR. RICHARD HITTINGER: My name is Rich Hittinger; I'm with the Rhode Island Salt Water Angler's Association, and I just want to point out that in Rhode Island, well we represent 4,500 recreational anglers. Our members understand how important menhaden is to those fisheries that we're involved with.

We have members who spend a lot of money fishing for striped bass, fishing for bluefish, fishing for bluefin tuna. Those members are very concerned about the health of menhaden stocks. We've been fighting the menhaden issue for about 20 years in Narragansett Bay. Our members, when they see a commercial purse seine boat in Narragansett Bay, they call us.

They are saying, why are they allowed to take so many fish, when all we want to do is leave fish as forage for those fish that we spend our lifetime pursuing? They get very angry about this. Now, we're trying to leave as many fish in the water as possible. We were very much in favor of ecological reference points.

We understand that they may be coming in two, four, six, eight years from now; depending upon on how everything goes with peer review, with putting together a management structure. But for now, the best science on ecological reference points recommends 75 percent to remain in the ecosystem. The only number that the Technical Committee gave you regarding achieving that goal, is achieving that goal in one year, 2018.

Now that was 147,000 metric tons. Anything that is a harvest level above 147,000 metric tons goes against what is the best ecological data right now from the scientist. We would have been in favor of 200,000 with ecological reference points. At this point I don't think you're going to be able to pass anything below 200,000, but you should.

I think you need to keep it at 200,000 metric tons at a maximum; because what's going to happen is as soon as those boats come in to harvest in Narragansett Bay, the recreational fishermen are going to be calling our office by the hundreds, and actually they're going to be calling Jason McNamee's office too, so he'll get some of those calls.

I urge you to be conservative with this species. I think you already understand, and that's how you've been managing. You've been managing at roughly half of the target F value to date. You know you could have set a much higher harvest level based on single-species management, but I urge you to stay at 200,000. CHAIRMAN BALLOU: I'll take three more. I see three folks standing, so we'll take those last three comments. Welcome, sir.

MR. ROBERT T. BROWN: Robert T. Brown; President of Maryland Watermen's Association. Throughout my travels across the Chesapeake Bay Bridge over the past several months, have been some calm evenings when I've been going across it; the amount of menhaden that you see school after school on top of the water. I don't know where these people are coming from saying that they don't see menhaden in the Chesapeake Bay.

What we have is fish have changed their migration patterns some in the river, because of the amount of rockfish that we have there. I am a pound netter, I fish on the Potomac River. The rockfish that we're catching and selling are top quality. They've had plenty to eat. Also, these fish, what they have done to me on the Potomac with the amount of rockfish that we have.

I've had to move my nets in different areas, to try to get where I wasn't catching as many rock, so I could catch the menhaden for my crabbers. In Maryland, our quota gets caught probably about August of most years, and we need that bycatch to keep us fishing the rest of the season

to provide crab bait for our crabbers and lobstermen, it goes up north too.

Also we need it for our charterboats and our sports fishing industry. With the quota the way it is now, and the way it's divided up, we cannot remain fishing an entire season unless we have a bycatch, or incidental catch, however you want to talk about it. But we can see where we have plenty of menhaden, but they have just changed their practices. They're staying more out in the middle of the rivers and in the Bays. I urge you to see that you can keep us fishermen fishing the entire season. Thank you.

MR. SCOTT SNIDER: My name is Scott Snider; I'm from Charleston, I grew up fishing, big advocate right along the coast there, watched menhaden over time. Our smaller menhaden size of the schools, frequency of the schools, we've got a lot of menhaden down there. Schools seem to be a little bit fewer and further in between, but we can still find menhaden for sure, definitely still some menhaden there.

I'm listening to this panel mention repeatedly about they're dedicated to restoring the population to the 70 percent target number. I hear about the unprecedented amount of public feedback that we've gotten on this specific discussion, which from your words are talking about how much people care and how much people are passionate about this topic.

I just wanted to say, I really hope that we're not about to increase this quota and continuous skirting along right along at that threshold number, just 40 something percent or whatever that was, and not let this overflow happen and spillover effect happen, and boost in the numbers to get towards that 70 percent number, which was really a lot of the energy behind Option E. Let us really start building towards that number. I hope we're not about to drastically increase this quota. Thanks.

CHAIRMAN BALLOU: Thank you, last comment.

MR. PATRICK PAQUETTE: Patrick Paquette, I'm a recreational fishing advocate from Massachusetts, and I am a member of the AP; speaking on behalf of the Massachusetts Striped Bass Association. We had a discussion at our board meeting a couple of weeks ago, and we talked about what would happen if this is exactly the way this meeting played out.

I would urge the Board to put some teeth in the rationale, in the discussion of the decision that was just made. What I mean by that is that we just hinged a lot that a transition to ecosystem management to menhaden-specific ERPs was going to happen in 2019, or the discussion that those models will be in that action, so I'm assuming it goes in the water in 2020. I would say this.

To put some teeth in that decision, real teeth in that decision, to keep the commitment to the public what it is today would be two actions regarding the TAC. One would be that you set the TAC today, or tomorrow however this discussion plays out this afternoon; that you set that for two years and not a day more than two years.

The TAC should be set for the 2018 and 2019 season, because if we're really going to have a management action in the fall of 2019 that's going to effect on-the-water management in 2020. If the ERPs, if the menhaden-specific ERPs are out, then we only have to set the TAC for two years. The second thing is, if we're actually going to wait for models that aren't finished.

If we actually believe, and that's based on the decisions made today that that is the opinion that carried the day here today earlier. If that is actually true that we believe they're going to be peer reviews, that we believe the action is going to happen for 2019, then I would suggest that there is no reason for a significant raise in quota.

It's clear that people want a raise in the single-species quota based on that management, to go above 2012 without knowing what the cutting edge, menhaden-specific reference points are, would be irresponsible to industry, never mind to the general public or the recreational community, because industry should not be fooled into thinking there is going to be a higher TAC, when you've got menhaden-specific science coming.

After 20 years of a downtrend, it is absolutely the public's belief that the 2012 reduction is what kicked off the recent growth in menhaden. I understand that there is science that doesn't believe that. But menhaden-specific ERPs should give us some guidance on that to go to a high increase today is irresponsible to trick industry in thinking that a high increase, and that the markets that develop.

Today was a bad day for striped bass and a good day for Canadian owned pet food. That being said, please carry your commitment through, and if you're going to wait until 2019 to take specific cutting edge science, then it only makes sense that you be conservative until you know what that science says. If not, maybe somebody knows something else here.

If not, maybe ASMFC continues its absolutely horrible, horrible reputation of continued delay. But the commitment to me, looking here and being hurt and not liking the decisions that were made today is that if those decisions are really based on what was discussed around this table, it would be no more than a two-year TAC, and it would be a modest increase at best, not bigger than 2012, until the new science comes in, in two years. Thank you. (Audience Applause)

CHAIRMAN BALLOU: Thank you to everyone who commented. We very much appreciate your input. I need to gauge the interest of the Board, in terms of how you would like to proceed. It is 4:46; we had scheduled the

meeting such that we would recess today at 5:00. We're not bound by that. That's really just a forage fish guideline. But we should probably think carefully about whether we want to get into motions now, or whether we want to recess now and begin anew tomorrow morning; given the possibility that motions might involve just TAC, or potentially be bundled with other allocation methods.

I think there is interest in potentially all of the above. This could be a situation where we could start, and just simply end wherever we may be in 13 minutes, if that is how the Board wants to move forward, or we could end now. I say end, I mean recess now, or any other direction that the Board wishes to go. I am now seeking input from the Board as to how you would like to proceed. David.

MR. BUSH: I'm usually chomping at the bit to get things done, but as over the past year I've seen in quite a few of the different meetings. At the late hour weird things start to happen, so I would be very much I guess for possibly starting this in the morning when we can finish it with a much safer mindset than some of us who have traveled since 4:00 this morning might be able to offer you. Thank you.

CHAIRMAN BALLOU: That sounds like one vote to recess now. Dennis Abbott.

MR. ABBOTT: It's always been my belief that you don't make good decisions on empty stomachs, so maybe a motion to recess might be in order.

CHAIRMAN BALLOU: I don't think we need a motion; I'm looking for a consensus. Pat Keliher.

MR. KELIHER: I don't have, I actually have a bundled motion prepared that I'm not going to make right now; but prior to that I have a motion prepared that would set governance on specifications in regard to opting into fisheries, and would like to ask if you would consider that

type of a motion now, or if you would rather wait until tomorrow.

CHAIRMAN BALLOU: I think that really speaks to the overall issue that I'm looking for guidance on. That opens the can of worms, so to speak, on a range of potential motions on a range of potential issues. We can either start now or wait until tomorrow morning. Tom Fote.

MR. THOMAS P. FOTE: I agree, we basically make decisions bad after we're sitting around here for a long time; and a lot of us traveled long distance driving and you're tired right now. It would be nice to come with a fresh mind in the morning and think, oh we'll have some discussions over dinner tonight too.

CHAIRMAN BALLOU: Is there any objection to recessing now? Seeing none; I am going to make the call that this Board is in recess until 8:00 a.m. tomorrow morning. We're going to begin at 8:00 a.m. sharp. Enjoy your evening, thank you very much.

(Whereupon the meeting was adjourned at 5:00 o'clock p.m. on November 13, 2017)

**November 14, 2017  
TUESDAY SESSION**

The Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission reconvened in BWI Airport Marriot, Linthicum Heights, Maryland, Tuesday, November 14, 2017, and was called to order at 8:00 o'clock a.m. by Chairman Robert Ballou.

**CALL TO ORDER**

CHAIRMAN BALLOU: Good morning everyone, welcome back. I'm going to call this meeting of the Atlantic Menhaden Board back into session. This is a continuation of the meeting that began yesterday, and is slated to continue through a good portion of today. Just a quick sense as to how we plan to proceed today.

First, I just thought it might be helpful to provide a brief reset on the issues that remain before the Board for final decision that includes the specifications, and the allocation issues and other issues other than reference points that are in Amendment 3. Megan is going to quickly run through those, just to make it clear as to what the suite of issues and options are that are before the Board for final decision today.

I will then open the floor to questions. We really didn't get much into that yesterday, but any questions that any Board member may have for Megan on any of the remaining issues. I think we covered specifications well yesterday, so I think we're past that; in terms of questions, although I think Jason would be more than happy to answer any if there are questions on that.

But once we get through that which I don't anticipate should take much time, I'm going to open the floor to motions; and I'll just have a brief comment on that before I do so. But for right now I'm just going to give the floor to Megan for just a brief rundown of the issues that remain before the Board.

MS. WARE: Just a reminder, there are seven issues for the Board to decide today. The first is the total allowable catch, which is basically the size of the pie that we will be dividing, and then next would be quota allocation; so how we're going to divide that pie. The third is quota transfers; so how is quota move between the different jurisdictions.

The fourth is quota rollovers; can unused quota be rolled over to the next year. The fifth issue is incidental catch and small scale fisheries; so how do we deal with bycatch landings or landings after a directed quota has been met. Sixth is the episodic events set aside; so do we want to set aside quota for episodic events in New England, and how much? Then the seventh issue is the Chesapeake Bay Reduction Fishery Cap; so is there going to be a cap on the

reduction fishery in the Bay, and what is that cap going to be?

CHAIRMAN BALLOU: Thank you, Megan. Just for the Board's edification, all of those issues are laid out in full detail in the draft amendment, beginning at Page 46 and running through Page 72. That is the chunk of the document that we're essentially working through for the rest of today. Are there any questions for Megan on any of the issues pending before the Board?

CHAIRMAN BALLOU: Nichola Meserve.

MS. MESERVE: Megan, regarding quota transfers, Option B, the quota transfers permitted with accountability measures for overages. Would a transfer that occurs before quota closure occurs that would not factor into the trigger, right? The 5 percent overage is just for transfers that would occur after a state closes a fishery. Is that correct?

MS. WARE: Let me see if I am understanding your question. If a state exceeded its quota two years in a row, in that third year are you asking? No, okay.

MS. MESERVE: If a state received a transfer from another state prior to a quota closure that would not count as a transfer in excess of the 5 percent that would factor into the trigger.

MS. WARE: Correct. Yes. That is part of their now quota, and they would have to exceed that by 5 percent, yes.

CHAIRMAN BALLOU: Other questions. All right, it looks like we are ready to go. I would urge that it might make the most sense to deal initially with specifications and then take on the various allocation and other issues in the amendment. That said, I'm fully aware that there is interest in perhaps bundled motions.

Any member of this Board may make any motion that they wish to make, and it would be

in order, at least ostensibly. But I just wanted to offer that suggestion for what it's worth; it's just a suggestion to kind of try to keep things as straightforward as possible. But consider that for what it is, which is just a recommendation not a decree by any means. With that the floor is open for motions on any of the issues left pending before the Board. Pat Keliher.

MR. KELIHER: Staff has a motion regarding an opt-in provision that I would like the Board to consider. If you could pull it up, if I get a second I'll be happy to give some further justification. **I would move that if a fixed minimum option is selected the following conditions would govern the activity: at the start of each fishing year and no later than January 31, states must declare if they want to participate in the fixed minimum program.**

**States have the option to opt-out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds of bycatch purposes and decline the remainder of their quota. States also have the right to opt-in to the program and receive their full allocation. In declaring its intent to receive its fixed minimum quota, a state can also choose to receive all, or part, of this amount.**

**If a jurisdiction declines its full allocation it must specifically identify the amount requested. States which opt-in must demonstrate that the state has the intent and the ability to commercially harvest some, or all, of its menhaden quota for the directed or bycatch fishery. This can be demonstrated through the issuance of permits for applicable gear types or species, historic landings, or the abundance of menhaden in state waters. Any quota that is not received by a state is redistributed to the other jurisdictions based on historical landings from the time-period selected by the Board in this Amendment.**

CHAIRMAN BALLOU: Is there a second to that motion? Seconded by Ritchie White.

MR. WHITE: For the purpose of discussion.

CHAIRMAN BALLOU: Thank you and Pat to you for discussion on your motion.

MR. KELIHER: I know this motion is a little Dave Pierce style. I apologize for that so there is a lot of moving parts. But according to the amendment the jurisdictions have the right to participate in the fixed-minimum program at their sole discretion. Under this option the states are entitled to receive a fixed percentage of the TAC. However, states have the rights to decline the fixed minimum allocation.

For the clarity purposes I'm calling this an opt-out provision. A potential concern is that the amendment does not provide specifics on how the forgone quota is to be redistributed among the other states. In addition, there are no specifications that a state must meet to keep their quota. At the August Board meeting concerns were raised about this opt-in process; and a motion was made to consider an opt-in provision, whereby a state would have to manually declare their intent to use the fixed minimum.

The motion failed as the prevailing side convincingly argued that the Board did not need to get into the details at that time. In addition, the Board retained the right to craft these provisions during the final approval process. That specific point is reflected in the minutes of the meeting; and since we're about to vote on the fixed minimum provision, I think it is imperative for us all to have a similar understanding of the conditions under which we operate before we vote on the issue.

CHAIRMAN BALLOU: Pat, for clarification, I believe I just heard you just heard you characterize this as essentially an opt-out provision; and I do see a lot of opt-out language in here. But I also see right up front, essentially an opt-in requirement as well. I therefore consider it to be both. Is that a fair characterization?

MR. KELIHER: Yes sir, Mr. Chairman.

CHAIRMAN BALLOU: Discussion on the motion; Ritchie White.

MR. WHITE: I guess a question for Pat. Would you be willing to, let's see where it says about if you prove abundance of menhaden in state waters. Would you change that to adjacent waters; because there can be large amounts just outside state waters that could be harvested and landed in a state?

MR. KELIHER: Yes, I would accept that as a friendly.

CHAIRMAN BALLOU: Is there any objection to amending the motion as just suggested? Seeing none; so if staff could just make that tweak to the motion. There was no objection to it, so that would be considered a friendly amendment, and that will go forward without objection from the Board, unless I see Robert Boyles objecting. Robert.

MR. BOYLES: No objection, just a question for clarification. Ritchie, do you intend, is adjacent indicating federal waters? We're not bunched up like you all are up there. I mean what is adjacent?

MR. WHITE: I would mean federal waters when I say adjacent, so I guess we could change it to state and federal, and/or federal.

CHAIRMAN BALLOU: Back to comments, and I have Jim Gilmore next.

MR. GILMORE: Pat, the concept of it is fine. The thing I'm getting stuck on is at the start of each fishing year. If you read through that we're going to be doing quite a bit of administrative work every year for staff; and then back at the states to go through this whole thing. It seems to be a lot of work. Is there a possibility that maybe we could do this at a longer time period?

Again, that is a lot to go through each year and again, some of it's going to be a bit of a crystal ball, because you're going to start at the fishing year and try to decide what's going to happen later on in the year. Like we've been seeing the last two years with menhaden, I don't have a problem this fall; last year I had fish kills all over the place. It just got a little bit more complicated. That's my only hang up is really that we would have to repeat this every year.

CHAIRMAN BALLOU: Pat, a response?

MR. KELIHER: It's not meant to be administratively burdensome. If a state is going to receive its allocation, it's just to ensure that that state gives a heads up that it doesn't need all of its allocation. Now I certainly understand that there is a crystal ball available here that is probably cloudy, depending on how the state wants to promulgate its fishery.

In this case what I'm looking for is for some more certainty up front, in regards to what may be available for a fishery. Then if a state does ask for it, tries to move forward with the fishery, you don't have the fish. There is a potential for a quota transfer provision to be voted on later in the day. Again, I'm not looking for making this administratively burdensome.

CHAIRMAN BALLOU: Let me go to John Clark next.

MR. CLARK: This is very interesting, Pat. I just had a few process questions on it. When you say a fixed minimum or receive all or part of this amount. Are you looking at that in increments or could a state just request anything up to whatever the minimum chosen? Then the second is how does this work in with the incidental catch? Are you looking to use this minimum so that we no longer have an incidental catch provision? Does it tie into that; because we're a state that has used the incidental catch provision pretty heavily over the last few years?

MR. KELIHER: I'm going to start with the second. This has nothing to do with any incidental or small-scale fisheries. This is purely for the allocation options that are potentially in play after a TAC would be set. John, remind me of your first question, because unlike Jay, I can handle one at a time not two.

MR. CLARK: I'm just wondering when you say a fixed minimum; receive all or part of this amount. This could get kind of messy each year. Would a state change how much they're requesting each year? For example, if it was like a 2 percent minimum that's I think about 100 times more than we're actually landing in a state like Delaware. We could just request part of that but do you want it in like half a percent, 1 percent, 2 percent? Just for administrative purposes, I'm just wondering what would be simplest here.

MR. KELIHER: I think it could come in just about any way, shape, or form; whether you wanted 50 percent of your quota available to that state or naming it as a pound. I think staff is going to have to translate that into what that number is for them to send out a redistributed amount to the states to be able to harvest.

CHAIRMAN BALLOU: Tom Fote. Are you passing, Tom? David Bush. David Borden.

MR. BORDEN: Not speaking pro or con, it just goes back to Jim's point about the administration. Would it simplify the administration if we just put a date in this? For instance, prior to December 31, or whatever other date. I'm not proposing that. January, well I think the problem as I understood Jim's issue is the fishing year starts January 31. Doesn't the fishing year start on January 1st?

CHAIRMAN BALLOU: Yes.

MR. BORDEN: To me, maybe I didn't understand Jim's point totally correctly. But to me the part of the mechanics of this is that this is going to have a direct impact on allocations

that are spread in other portions of this FMP. To me it would make sense to just back it up to December 1. Prior to December 1 for the following fishing year you would specify this; and then the staff would then have the ability to calculate the shares and splits of the quota for the state, and send out a memo to that affect. Maybe I'm not following this.

CHAIRMAN BALLOU: Megan, do you want to just speak to the comment you just offered me?

MS. WARE: Yes, I'll just remind the Board that we don't finalize the quotas for that current year until April, when we get the compliance reports, because we're not going to know overages or unused quota, things like that. At the May meeting that's when we come to you guys with final quotas for that fishing year. The intent was to be a bit ahead of that. But that's how we do it now.

CHAIRMAN BALLOU: Dave, a follow?

MR. BORDEN: Yes, disregard everything I just said.

CHAIRMAN BALLOU: Next I have Adam Nowalsky.

MR. NOWALSKY: For clarities sake, the start of this motion begins with, if the fixed minimum option is selected. Is the intent of this to only apply if we select Option C or Option E from the allocation decision? Is that the belief here? If that is in fact the belief, I would consider. I mean I think this is good discussion to have as a precursor to that knowing what a state or some other states may be thinking. But if this would apply only to those, perhaps it might be best to proceed with tabling this motion until after we have the allocation method discussion. But at least we've had this precursor to know what we might be looking at.

CHAIRMAN BALLOU: If put in the form of a motion we could consider that suggestion. Next I'm going to go to Senator Miner.



SENATOR CRAIG A. MINER: I guess because this is such a new denomination in Connecticut, one of my concerns is that I don't know how quickly that is the first year, you could ever demonstrate that you have the ability to catch whatever your quota might be. I could almost imagine that after a year we could look at this again; and make a determination whether or not some states ever intended to catch any of their quota.

But the winner in that if that were to occur, would be conservation, in my view. If we were not able to get up to speed and completely allocate a million pounds or whatever; the harm in that case would be I guess that the environment wins, if you believed in conservation. I would suggest that this is premature.

I appreciate the conversation; but I think it's premature on that front, and also just because you didn't get your quota in one year doesn't mean. How would you then demonstrate, as the rest of the paragraph goes on that you have the ability to actually use your quota? I do have one question, I guess, and that is there any other species where we have this requirement; through you, Mr. Chairman?

CHAIRMAN BALLOU: I see heads shaking in the negative by staff; so it's my understanding that there are no other species for which we would have a provision like this.

SENATOR MINER: I know there were some other people that wanted to speak, but I think it's premature.

CHAIRMAN BALLOU: Loren Lustig.

MR. LOREN W. LUSTIG: I'm sorry for my sore throat. I was earning a living yesterday, so I didn't get a chance to be here. I'm going to defray my spot to speak to my colleague Andy Shiels, but I would like to be allowed to offer comments after he has concluded, Mr. Chairman.

CHAIRMAN BALLOU: Andy, go ahead.

MR. SHIELS: Senator Baker (Baker?) raises a good point. If I read this from the lens of Pennsylvania, it feels like we're being targeted here. I feel like the state of Pennsylvania should have the right to do with its allocation what it chooses to do. As he suggested, the winner might be conservation if you don't harvest your entire allocation, and then how would you prove it?

Somebody said hang on. Oh, he was talking on the phone. I thought he meant me. Who knows in this room? I'm concerned as I'm starting to understand what's going on here. I feel like Pennsylvania should have the right to do what it wishes with its allocation. If it chooses to use that allocation as a set aside or reserved for conservation that language doesn't allow us to do that.

CHAIRMAN BALLOU: Loren, did you want a follow on now?

MR. LUSTIG: Yes, thank you, Mr. Chairman. Everyone here knows that I am not a fishery scientist. I am an environmental educator. I always hearken back to the wishes of the children of Pennsylvania. My proposal is to vote for this amendment. However, we reserve in Pennsylvania, the right of the children to choose the gear that is used to collect our part of the commercial harvest.

I would be willing to bet they're going to use the lousiest gear you can possibly imagine, full of tears and rips, and about 99.5 percent of our commercial harvest is going to escape unharmed back into the water. But we will harvest. We will abide by the specifications of this amendment with about one-half of one percent. All right, because the children of Pennsylvania wish it. In fact my grandchildren demand it, and I'm not going to turn my back on them.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: I think if there is a motion made to table, I think that's the way to go. You know I know that Pat has put up sort of an idea here on how things could go, but it is too early, and there is no magnitude here. I think Pat did that on purpose just to sort of get the opt-in or opt-out; but it is too early, so I agree with that.

CHAIRMAN BALLOU: Pat.

MR. KELIHER: I would not be opposed to actually seeing this tabled for discussions as it relates to Option C and E. I think Adam's points are valid. That was going to be my original intent, but I wanted to ensure that we had a good conversation around this opt-in/opt-out concept. Frankly, from my point of view, allowing for this type of opt-in or opt-out provision allows me to consider a lower TAC amount.

Because if we know what we're going to get up front versus at the end of the season, the state of Maine could be better prepared to understand what our targets will be. Understanding that up front also allows us to consider a more conservative TAC at the end of the day.

CHAIRMAN BALLOU: Pat, would you like to make a motion to table? I'm sorry; I didn't want to put words in your mouth. I wasn't sure if that's where you were going; maybe not. Adam.

**MR. NOWALSKY: Move to table until after we've had the Issue 2 discussion.**

CHAIRMAN BALLOU: Is there a second to the motion to table.

**MR. NOWALSKY: The Issue 2 decision.**

CHAIRMAN BALLOU: Moved by Adam Nowalsky, seconded by Roy O'Reilly to table this motion, which would postpone consideration of it until later in the meeting; so it just sets it aside temporarily and it can be

brought back later in this meeting. It's not debatable. Is there any need to caucus? Megan?

MS. WARE: Just get clarity on what Issue 2 is, what do you mean by that?

MR. NOWALSKY: Allocation methods and timeframes.

CHAIRMAN BALLOU: Tabling does not move it to a time or point certain in the meeting, although it can be brought at any time that anyone wishes it to. To me, the motion to table just simply puts in abeyance for the time being to be brought back at any point during this meeting. Are you comfortable with that Adam, or do you wish to change your motion to postpone to a time certain?

MR. NOWALSKY: I believe the motion to table is very direct about when this would come back off of the table and in front of the Board for discussion.

CHAIRMAN BALLOU: Understood, so let me read the motion into the record. Actually, I have it in front of me I think. No, I don't. **Move to table until after Issue 2: Allocation Methods and Timeframes have been decided.** Again, because it is a motion to table it is not debatable. Is there any need to caucus?

Seeing none; is the Board ready to vote? I believe so. **All in favor please raise your hand. Thank you, hands down; opposed, null votes, abstentions, the motion carries unanimously.** Would any other member of the Board like to make a motion? Dennis.

MR. ABBOTT: To remove it from the table is only going to require a majority vote?

CHAIRMAN BALLOU: Yes that is correct. The floor is now open for any other motions on any other issues. Jim Estes.

MR. ESTES: I would like to get back to specifications if we could please.

CHAIRMAN BALLOU: Go ahead.

MR. ESTES: I think that we have a motion. If I can put it up there I'll read it, and if I can get a second I'll explain. **I move to set the total allowable catch not to exceed 216,000 metric tons until such a time that ecological reference points are utilized for Atlantic menhaden management.**

CHAIRMAN BALLOU: Is there a second to that motion? Seconded by Spud Woodward, moved by Jim Estes and seconded by Spud Woodward to set a total allowable catch not to exceed 216,000 metric tons until such time that ecological reference points are utilized for Atlantic menhaden management. Jim.

MR. ESTES: I know that yesterday we disappointed a bunch of our stakeholders. I think we did the right thing. But part of the reason at their disappointment is, they fell like we could easily kick the can down the road; as far as developing these ecological reference points. I think that this motion does a couple things.

Number one, I think it would hopefully give them some confidence that we mean it; and also because we are tying it to allocation, or excuse me to the TAC, which we all think is important. It makes us somewhat accountable; and so that is the purpose of the motion.

CHAIRMAN BALLOU: Show of hands, who would like to speak in favor of this motion; keep your hands up, we'll take questions. First of all I just want to get a sense, so I want to be able to be able to allow for a balanced discussion. You can put your hands down. Those who wish to speak in opposition to the motion, or even leaning toward that.

I will give everyone on the Board a chance; I just want to get an initial list going. I'm sorry, was it Steve that you just had a question? Are you on

the list? Did you put your hand up? Well, we'll put you on the list, Steve, so you're on the list. Okay, I'm going to ask Megan for that list then I'm going to go right down in order in which she wrote it; starting with Ritchie White.

MR. WHITE: I want to speak in favor of it; but first a question if I may, and that would be that this is open ended time-wise, and if a situation arose by which menhaden declined substantially, and we had to take a cut in the quota, this would not alter our ability to do that. That would be my question first; then I would like to speak to the motion.

CHAIRMAN BALLOU: Jim.

MR. ESTES: Oh that was my intention, was that we could go down but we can't go up.

MR. WHITE: Thank you. I agree with the concept. I think 216 is a compromise. I know there are states that would like to see 240, and there are states that would like to see 200. I think 216 is an excellent compromise in the middle. I think 216 with an individual state allocation that I also believe will come up later.

I think it allows Virginia and New Jersey to stay whole while allocation goes to all the states that don't presently have allocation, and I think that's a fair compromise. I think it also leaves menhaden in the water; compared to 240,000 metric tons. I think all said it is something we should support.

CHAIRMAN BALLOU: Adam Nowalsky.

MR. NOWALSKY: I'll get right to it. I've always said that menhaden is one of the easier species for me here around the table; because of the involvement of the assemblymen that I represent, very involved with the fisheries. His goal at home was that the health of the resource argues in favor of something more. **I'm going to move to substitute to set a total allowable catch of 240,000 metric tons for 2018 and 2019.**

CHAIRMAN BALLOU: The motion is up on the board; is there a second, seconded by Dave Bush? I'm going to stay true to my procedural plan to allow discussion on both the main motion and the substitute; as we did yesterday. Speaking in favor of the substitute is often the same as speaking against the main motion; so there really isn't much of a distinction here.

However, I just want to make it clear that as you comment on the now substitute motion, you are welcome to comment as well on the main motion, offering your support for the main or your support for the substitute. That is how I would like to handle the ensuing discussion. I'm going to continue down the list and go to Allison Colden next.

DR. COLDEN: I would like to speak in opposition to the substitute motion. There was a lot of discussion of this body yesterday about the concepts of intellectual honesty and integrity; and along those lines Option E was seen as, or characterized as a not conservative option. Along those lines I would challenge the Board to think about whether 240,000 metric tons is indeed a conservative alternative to that option.

Additionally, we talked about not selecting a target that is arbitrary; relative to the current reference points. We currently have a fecundity reference point which we are not achieving the target. It would seem following that conversation that a TAC should be set which would move towards achieving both the fecundity and the fishing mortality rate targets.

I would support in concept the main motion. I think that Jim provided a lot of strong suggestions on why we should put some real momentum behind the development of the menhaden specific ERPs. I think we heard in the spoken public comment yesterday some great points about really putting some weight behind the Board's commitment to moving toward the menhaden specific ERPs, and I think that the main motion would achieve that.

CHAIRMAN BALLOU: John McMurray.

MR. McMURRAY: I don't support the substitute, and I think it's important here to give you guys a perspective of somebody who spends most of their life on the water, and who is absolutely dependent on this resource. My season is dictated by spatial and temporal aggregations of menhaden.

It is absolutely the driver of my business; and a lot of businesses up the coast now. As you guys are very well aware, we've had this super abundance of fish that has flooded our coast. I'm enjoying it right now. It's right off of the south shore of New York. With it are striped bass, whales.

I took my son out the day before, we had one come up right by the boat, screamed his first cuss word, it was awesome. I tried to act angry; but I just couldn't. But the point is that this is not some oily bait fish that can just be sucked up without impacting everybody else. This is a huge increase.

I know that there is no stock recruitment relationship, and I understand environmental factors that probably contributed to this resurgence that we're having now. But to say that that reduction had nothing to do with this abundance of fish, I don't understand it. I think it defies common sense. Not only are we going back to those pre-2013 levels, we are exceeding them by a lot.

If there is anybody around this table who believes that that is not going to affect the coastal stock that we're not going to see a contraction again. I hope that you are in touch with the public about this. They want this abundance. This is good for them, it's good for us. This is absolutely irresponsible to even suggest this right now, when we had all this public comment. Frankly, I can't see how anybody would support it.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: I can't support the substitute motion. You know we have been on the record in the past as supporting modest increases in the TAC when the science allows for that. We received our assessment update in August; which indicated stability in the assessment, and indicated that we were below both our fishing mortality target and thresholds, based on our fecundity reference points.

One of the other things that we have emphasized in the past is that significant changes in the TAC do not provide stability to industry. That's why we would be more supportive of the main motion. I think also, echoing some of the comments that have already been made around the table, modest adjustments in the TAC better position us to implement the menhaden-specific ecological reference points that we've made a commitment to down the road.

CHAIRMAN BALLOU: David Borden.

MR. BORDEN: Ritchie made one of the points and Michelle just made the second point, so I'll make the third point, which is I'm opposed to the substitute motion. Just note that really to me the deciding difference here is Motion 8 caps the catch at 216,000 and Motion 9 basically establishes the catch for two years based on that level. There is a significant difference between the two.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: I'm going to look at this a little differently. I don't support the 216,000 metric ton TAC, because just like we heard with what Pat Keliher presented earlier, everything is nested here. You know if we had a huge blackboard with arrows, we could probably wend our way through this process a lot easier.

But to say 216,000 metric tons is right. We don't know what that means yet. Is that going to be the total? What happens to bycatch, what happens to episodic events, you know

things that may make a difference? You've heard about the pound net fishery in Maryland and Virginia. Depending on what is attached to these 216,000 metric tons has a lot to do with where we end up today.

My particular desire here is just to say that I don't agree with 216,000 metric tons; because we don't know what else is going to go along with that. We have a menu, but really the menu as we go through it is interwoven, in a sense, and it makes it very difficult at this time to support 216,000.

CHAIRMAN BALLOU: Steve Train, did you still want to offer a question or comment?

MR. TRAIN: Yes, thank you Mr. Chairman. A lot of the questions I had have been answered. I think I like the hard dates in the substitute motion. The open-ended dates in the first part make me nervous. We're hoping to have everything out by 2019, but we might not. If we have a very healthy resource we have room to move up a little bit from 216, and we wouldn't be able to do that.

I think 214 sounds reasonable sometimes when I see the statistics we have, but I also see the pecuniary numbers, and I think that may be a little bit overreaching. I think we have a possibility of increasing the harvest on this resource for years and years, a little to a time, if we don't take too much at once. I think that benefits every user of it. There are parts of each one of these motions I could speak in favor of. Either one of them individually I'm not quite ready for.

CHAIRMAN BALLOU: Steve, just for clarification. You said 214; did you mean 240 in your comment just now? Thank you; that was a yes for the record. Roy Miller.

MR. MILLER: I think I oppose the substitute motion in favor of the original motion; for all the reasons that have been state thus far, but also I have to look at the optics of this situation.

The original motion has a modest increase, about 8 percent. I think that is prudent; considering the overwhelming public support that we heard yesterday. I think it's a little premature at this time to bump it up to 240,000 metric tons.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: Surely everything has been said on this subject at this point. I don't support the substitute motion like many of my colleagues, and I think we've heard enough discussion about where everyone individually stands. It is clear to me that it's time to make a vote on how big the pie is going to be; then following that we'll figure out how many pieces of pie that we're going to cut it up into. I would like to ask that we think about taking a vote; because I don't think that any further discussion is going to change anyone's point of view at this time.

CHAIRMAN BALLOU: I do have three others on my list. I would like to at least move through those and then see whether the Board does want to call the question. Next I Have Robert Boyles.

MR. BOYLES: I'll pass, Mr. Chairman. Thank you.

CHAIRMAN BALLOU: Loren Lustig.

MR. LUSTIG: If Dr. Seuss was here in the room with us, he would remind us of the limitless forest of truffula trees, and wouldn't you know it, something called a Thneed could be made from them. If you're wondering what the final outcome of over harvesting was I can tell you at our break? I do reserve the right sometime today to use the word unless. Some of you will also remember that.

CHAIRMAN BALLOU: Pat Keliher

MR. KELIHER: I'm going to refrain from my Dr. Seuss quota that I was going to go into. I'm going to speak against the substitute motion.

While I support setting a TAC for the 2018 and 2019 years, I think as Dr. Duval stated, an incremental step in moving forward I think is called for at this time.

CHAIRMAN BALLOU: I was just going to ask the Board if there was any objection to ending debate and calling the question. Two hands went up. I'm going to go to those two hands, and then I'm going to ask that same question. Dr. Rhodes.

DR. RHODES: Listen, all the discussions we've had, this Board is committed to the ecological reference points. It's just a matter of how we're getting there. Thirty-three years ago, I took another doctor's commitment that was to first do no harm. But I really want to go back to what Hippocrates said, and of the epidemics. I'm going a Robert Boyles to get us all in place here. But the physician must be able to tell the antecedents, know the present and foretell the future. He must meditate these things and have two special objects in view, with regard to disease.

We can substitute menhaden; namely to do good or to do no harm. I think the 240, while it may be allowable, is not allowing for the least likelihood of doing no harm, and doing the most good for the resource. The 216 will make a lot of people whole, will allow for states that want allocation to get it without negatively affecting states that currently have allocation.

Having it set until the ERP is ready to go allows the staff to not get caught up or this management Board to get caught up, in setting these same discussions year after year after year. Hopefully, allowing the ERP to be done that much more rapidly, so in a two-year or three-year time period we're ready to have the next level of discussion, so a different doctor, but same process.

CHAIRMAN BALLOU: David Bush.

MR. BUSH: Obviously once again we've got some excellent points around the table and points of view to consider. Some of the things that we've talked about are stability, and we do need that. We need that in the industry, we need that in the environment. I completely respect that. But we talk about stability a lot more when we're considering an increase. However, whenever the numbers start dropping, well stability is not as important as the resource.

Okay well I get that. I mean it's got to play fair both ways, given that setup. But the other thing is, the promises that we made yesterday. I had some interesting conversations yesterday evening and you know was put on the spot. I agree. I think we made some promises and we wrote some checks that we need to make sure that the bank has the money to cover when it comes up here in a few years.

We've mentioned the conservative nature of one number over the other. Just to point a couple of numbers out. I looked up yesterday while we were discussing this. From 1950 to 2016, our average landings in metric tons were 333,000 metric tons. From 1950 to 1980, it was 410,000 metric tons, and from '80 to 2016, it was 266,000 metric tons. Keep in mind that we haven't exceeded 266,000 metric tons since before 1995, but up through 2016 that is still our average. As far as being conservative, we're talking about 216 to 240.

I was looking yesterday at the numbers put up on the board, and it seems like that 230, 240 appears to be a crossover point to where once you get above that some of the zeros start shifting into whole numbers. I don't know if maybe this would be appropriate if the makers of the motions might consider it, maybe amending the motion to include some of the better values of both of these motions. If so, I would be willing to do that if I could get some help.

CHAIRMAN BALLOU: I think first of all I would like to ask is there any member of the Board who has not yet spoken on either of these motions, who would like to speak? Seeing none, and taking David Bush's comment into consideration. Is there any objection to calling the question and moving forward with the vote on the substitute? Seeing no objection; we will caucus for one minute and then vote on the substitute. All right, I'm going to call the question. **This is a vote on the move to substitute to set a total allowable catch of 240,000 metric tons for 2018 and 2019. All in favor of the motion please raise your hand. Hands down, all opposed please raise your hand. Hands down, null votes, abstentions; the motion fails 4 to 14.** We're back to the main motion; further discussion on the main motion. David Bush.

MR. BUSH: As I mentioned earlier, there were some very valid points in both. I think we need to, in my opinion, as soon as the ERPs are out use them. That needs to be in there. I think specified years, it's been mentioned a few times that we need to mention those exactly as well. While I think I agreed to second the motion with 240,000, it was more for discussion purposes, but also because I believe that these modest increases while they are great, you know to say that they're modest.

You know these folks who rely on stability also rely on good years, and they never experience the good years, only the bad. I think looking at the numbers that we looked at yesterday, we can certainly see that there are quite a few higher numbers that have been shown to be more than fair to both the environment and the fishery. With that being said, if you're willing to take an amended motion or to amend this motion to include some of those finer points, I would appreciate the opportunity.

CHAIRMAN BALLOU: You're welcome to do so if you would like.

**MR. BUSH:** All right, and I'll need some assistance, but I would move to amend to set the total allowable catch and not to exceed 220,000 metric tons for 2018 and 2019. Sorry, help with the wording, or if the ecological reference points are available before then, however we would best word that.

CHAIRMAN BALLOU: Staff is putting the motion up on the board. Dave, I take this actually to be another move to substitute. Are you comfortable making that?

MR. BUSH: That's fine.

CHAIRMAN BALLOU: I don't see this as an amendment.

MR. BUSH: But I would want the maximum timeframe to be two years. I want it to be readdressed if we do not have these ERPs available by then it needs to be addressed, and not continue on. Whenever you're ready, I would like to speak to it for just a moment.

CHAIRMAN BALLOU: Yes let's just make sure we get it correct. First of all, and I realize this is a fine point. It could well be an amendment. But I just would like to suggest that it read; move to substitute, so Max if you could make that change, ***to set a total allowable catch not to exceed 220,000 metric tons for 2018 and 2019, or until ecological reference points are available for management use, whichever is first. Dave is that your intent to make that motion?***

MR. BUSH: Yes. I don't believe it needs to be specified, but I'm referring to the species-specific ecological reference points, but if that needs to be in there then that is fine as well.

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Rachel Dean, Dave, discussion on the motion?

MR. BUSH: Yes sir and I mention this allot, I'm the new kid on the block here. I'm trying to

understand what our goals here when we show up at each one of these meeting. I've talked to some of you earlier; you know on the federal side it's pretty easy, there is a lot more doctrine, there is a lot more guidance. These are the goals; this is what you should be striving towards.

Here it's not quite so easy. But I understand that we need to take care of the environment. I understand we need to take care of those who rely on it as well. I really do believe if we're willing to provide reductions to protect the fishery in a bad year, we should also have the intellectual honesty to provide the ability to harvest during good years as well.

Now that may go against the philosophy of stability; but at the same time you can't only have average years and bad years. There is only one way to get an average year, and that is to take a bad year and provide a good year to offset it. I think this does that. I think arguing once again for numbers, simply because they're round is silly, and I hate to be part of a discussion that does that like we did last year.

I chose 220, because I think 220 is the point where a lot of our zeros turn into again whole numbers, when we're talking about the possibility of exceeding certain targets or thresholds. That is my reason for choosing 220. If the seconder would like to provide any other comment, I would appreciate it.

CHAIRMAN BALLOU: Rachel, I will go to you, but first just by a show of hands, who else would like to speak? I'm assuming Rachel wants to speak in favor, although she doesn't necessarily need to. Who else on the Board would like to speak in favor of this motion to substitute? Just put your hands up so I can go down the list, at least initially. I see three hands. Thank you, those who wish to speak in opposition. I see two. With that I will go to Rachel Dean.



MS. RACHEL DEAN: Dr. Seuss, I am here, I am here. I struggled with this. My first meeting I got to go through as we were setting the TAC the last time. It was brutally painful. But there is something that has always resonated with me as I've participated in fisheries management, and that is that we are so quick to take and so reserved when it's time to give credit where credit is due.

I've heard both sides of the argument. I have heard that decreasing the TAC did nothing; which I would sit here and apologize to fishermen then. That weight is on me now as I look at a 0 percent chance; a 0 percent chance of exceeding the F target; which means 100 percent chance of not exceeding the F target.

If this was successful management, if this got us to where we are to where we're starting to see a resurgence of menhaden, bunker, peanuts, up and down the coast. Then I would ask that we give some credit where credit is due. This isn't putting us back to harvest levels that got us into an awful situation.

This is by no means putting us back to where we were. This is just putting us somewhere where we have put credit into the management system so far; and saying to our fishermen that management does work. Have a little faith, because it will be given back to you when it allows for it.

CHAIRMAN BALLOU: Ritchie White.

MR. WHITE: I'm going to oppose the substitute motion. There is also a piece of giving and taking, certainly is for the fishermen. But there is also for the resource that needs menhaden. We're certainly going to take some from all the description we've heard about the whales, the bluefish, the striped bass, and the birds that also need menhaden.

We've had a lot of comments about the support for ecological reference points. Clearly those, when we get those, are going to have us leave

more menhaden in the water. I think the 216 is a compromise from the people I talked with last night and yesterday afternoon that I was hearing 201,000 as a possible motion and 240. I think the 216 is a fair motion.

I also oppose putting the dates in there. I oppose putting the dates in there, because what if the reference points are not ready in 2019? Do we want to go through this process again for one year? I don't think so. I think the original motion allows a little bit of time to make sure that the reference points are in place.

CHAIRMAN BALLOU: Russ Allen.

MR. ALLEN: I thought Rachel hit all the points very well, so I won't reiterate what she had to say. I just know that this to me is a good compromise between the resource and the fishing industry. If we decide to move forward with some sort of fixed minimum, it should make everyone whole and give everyone enough of the resource for their own states.

I think it really is the good between 200 and 240. As Rachel said, there is a 0 percent chance of going over the target with this number. That came from the Technical Committee, which I believe would have no problem moving forward with this either.

CHAIRMAN BALLOU: John McMurray.

MR. JOHN McMURRAY: This is bizarre to me. This is a public resource. It's like nobody looked at or read the public comment or went to the public hearings. The public wants enough of these fish to stay in the water so they have access to these whales; they have access to the striped bass, access to the bluefish.

Does anybody care what the public wants? A 20,000-pound increase is a lot of fish; it is hundreds and millions of fish. The analysis that we have right now in impact is single species; it's based on a single species stock assessment.

We have no idea what the impact on predators will be.

I would argue that we should wait to see what that impact is, and that we know the tradeoffs. We have science to base those decisions on before doing something like this; which is just way over the top in my opinion. Frankly, 16,000 metric tons is a hard pill for me to swallow; but I think it's reasonable, 20,000 pounds is not. The public frankly is going to flip about this, and they have a good reason to. I'll leave it at that.

CHAIRMAN BALLOU: John, several times you said 20,000 pounds. You meant 20,000 metric tons, I believe.

MR. McMURRAY: Yes sir, thank you.

CHAIRMAN BALLOU: David Blazer.

MR. BLAZER: I'm in support of the substitute motion. I think the 220,000 metric tons is kind of a moderate increase; based on what the Technical Committee has provided for us and the risks that are involved there. I'm also supportive of just setting this for the two years. You know we fully want the ecological reference points to be here as soon as possible. We kind of mentioned that yesterday. But I think if we start to manage to that third and fourth year out, I think we need kind of a two-year timetable to kind of reevaluate at that time. If we've got to go through a TAC setting exercise in two years that is our responsibility. That is us as management Board, so I feel very comfortable in making those decisions in two years, and I think that's our job to do that so I'm fully supportive of the motion to substitute.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: I'm not in support of the substitute motion. One of the comments that struck me this morning, we've talked about Dr. Seuss and other things to add a little levity to the conversation. But a comment that John

made across the table, having his son out there and seeing a whale and saying awesome.

Well, this spring or early summer Ritchie White took me and my grandson from Milwaukee out striper fishing. My grandson caught a nice striper; and his first comment was awesome. The awesome came from the fact that the stripers that we were catching this summer were extremely healthy. I don't know if it has a lot to do with menhaden in particular.

But Ritchie White and I fished a lot, and we would always when we had a fish on the line, how big, how big. Ritchie would always overestimate the size of them, because the fish seemed to be so strong. What I'm getting at is the general public wants to see menhaden in the water; thousands and thousands and thousands of people from, (Audience Applause) thank you but hold that back, we don't need that. We appreciate it, but we don't need it.

But, it's true that the general public wants to see fish in the water. Whether it's 216, 220, it might seem like a small figure. But I think the general public would really like to see that number under 200,000. If you really get down to it, they don't want to see the extraction of menhaden to go to fish meal or a lot of products for whatever that they don't understand.

But they understand what they see out in the water. For that reason I think that there is a compromise figure of 216, which comes out. It should keep most people whole, give all the states some piece of the pie, and keep the states of Virginia and New Jersey hopefully in a good position. I urge you to vote down the substitute motion. Vote on the main motion. I mean we could go on all day. We can go from 220, we can go 280.

Maybe I'll be prepared to make a motion next, or if 220 passes to make another motion for 214. But 216, seems to be the best compromise figure; and I urge my colleagues to vote down

the substitute motion. Vote for the main motion of 216,000 metric tons, and let's move on to the allocations.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: I don't know about a compromise when you start off with 216,000 metric tons. I'm not sure we have a flowing recollection of all the different steps that we've taken. But I have heard repeatedly about making states whole again; specifically Virginia, New Jersey, and also Maryland.

Starting in 2013, those were the three states that were above 1 percent, in terms of the allocation. I think that during the allocation process, when Robert Boyles was hosting at least eight calls. Most of the comments were about capacity; and I kept urging through the series of those phone calls, capacity isn't what you're doing now.

We want to know what capacity is as you look down the road a little bit. I'm not sure that that ever occurred. I'm not sure there were every enough discussions about what capacity really is. I do know Rhode Island has capacity that wasn't there many years ago; or at least the boats weren't ready to embark on taking some of that capacity from the total allowable catch.

I also know that Maine ran into a situation where the episodic problem was more than episodic; it was bordering on catastrophic, with the constructs that we have, and with the episodic being held at 1 percent. I also know that New York was sweating bullets; having gone through two seasons of menhaden kills, and somehow being included with New England, which is fine, in the episodic events.

We have these situations that when I saw 216,000, if you'll notice, I didn't speak in favor of 240,000. I said 216,000 is not the right amount. We have a little way to go. Pat Keliher started the situation today and made me a little

bit nervous; because it was sort of open ended on this minimal quota situation.

No matter where you look, you're talking minimum being 39 million, with a half percent, 70 million with 1 percent, and 83 million that probably couldn't be used out of 141 million that would be for 2 percent. I know everyone has good intentions; and I think they stand by that and I stand with them, in terms of the reference points.

But we made a decision, and the decision was we're still united. We want those biological/ecological reference points. We have a pretty good feel that it's going to be sometime in 2019 for peer review. I think the substitute motion gives a little more assurance that two things can be captured today.

One will be to make states whole on a situation which I'm not going to recount; unfortunately, many of you remember as I do what we've been through, all the steps. I won't recount them on where we are today compared to where we were in 2012. The second thing is there is capacity that hasn't been there before.

That has to be recognized, and that is fair. I can't tell you right now how many menhaden are left in the water; because when they did the updated assessment and you had the NAD situation, you had those northern fish, which sort of perturbed the model a little bit. It's difficult to say whether the 68 percent that were left in the water at the time of the benchmark is higher or not. We just don't know; and I have asked that question, because there is concern for forage, definite concern. There is also a concern by all of us for forage in the form of herring; forage in the form of the alosine. Menhaden is not exactly the only forage species out there; and I think as we go through this, whatever we do we ought to start making renewed commitments on the alosine, and we ought to get the New England Council to maybe make some renewed commitments

on herring. Thank you for your time. I do support the substitute motion.

CHAIRMAN BALLOU: Allison Colden.

DR. COLDEN: I would just like to make a comment, and maybe reframe. Actually Rob just touched on this. Reframe the concept of the timelines that are included in each of these motions. Option B was adopted as our reference points yesterday by this Board; with many of the comments expressing confidence that the menhaden-specific ERPs would be ready for primetime in 2019, or at least out for peer review.

Personally, I don't see if the Board was so confident in that fact yesterday, why it would be necessary to change or limit the TAC setting exercise here for two years, if there was a high level of confidence that those models would be ready as we saw in our discussions yesterday.

CHAIRMAN BALLOU: Ray Kane.

MR. RAYMOND W. KANE: Yes, I'm going to speak. I'm going to oppose the substitute. I'm in favor of the main motion. I've heard around the table fishermen want to see an increase. Well, if I'm not mistaken we started at 185,000 metric ton, and then we went to 200,000 metric ton. Once again, we're increasing.

Fishermen should be able to walk away from here saying well we did get an increase. What nobody has reflected on is the bluefin tuna fishery in New England. For the first time in years the vessels, 35 and 40 foot vessels, didn't have to steam 130 miles out to the Hague Line to catch the quota in general category.

We had fish, many a fish were landed within three miles of the coast this year, and I venture to say vessels didn't have to fish more than 30 miles offshore. If you've ever fished for a living, you know what I'm talking about. When you're on a 35 foot vessel or a 100 foot vessel;

hundred foot vessels belong 130 miles offshore, 35 foot vessels don't.

My concern is also ecological reference points. I think this is a modest increase. People will be happy with it. I've had a lot of constituents back home, the bluefin tuna fishermen especially; tell me why are they going to raise it at all? We finally have menhaden back in our waters. I mean we had 800 pound bluefin tuna in 20 feet of water this year.

A pod of them came up in 30 feet of water. To address Mr. O'Reilly, you know there is an issue with herring. There is a reason why all these big animals came that close to the shore, because of the abundance of menhaden on the backside of Cape Cod. Once again, I oppose the substitute, and I'm in favor of the main motion.

CHAIRMAN BALLOU: Is there anyone who has not yet spoken on the substitute who would like to? David, you had your hand up. Last crack, final comment then we'll vote.

MR. BUSH: A couple of points I guess I would like to bring out. One, we've talked about reinvesting for a conservatory effect. Given the allocation schemes, states can do what they want with what they get; so if their particular state is now seeing an increase in menhaden and what not, and they don't want to use that as a fishery base. That is up to that state to sort of determine what they would do with that; and we'll be discussing that in other options here shortly.

I mean that's certainly the potential; I'm not saying that would be the case, but it could. Another thing I guess I would like to point out. You know our current trajectory, our management philosophy has gotten us where we are, not a particular number. While it's nice that we've finally seen an increase from where we were to 200,000 metric tons, you know we're also at the lowest point, the lowest harvest limit we've ever been at.

Again, I spoke of the averages over the years. We've never come close to our average, even over the past 20-30 years for the last ten years. It's not because they're not out there, it's because they've been limited from catching it. We've gotten to the point now where it's once again fighting over scraps.

We forget the big picture. We forget that there is more fish; and we certainly don't want to do things to cause harm to the ecosystem. But we don't even have the capacity to harvest what we use to harvest for decades; and we still have those fish and the predators that relied on them. I've talked to the bad guys, the big bad guys that are in the room before today, before this meeting.

I've never once had them come to me and ask me, we need you to get all you can get. We want you to double the quotas. They've never asked that. They said this appears to be what's fair. This appears to be what the science supports. You know I've talked to them. I've talked to the other folks. Well, they say the same thing; this appeared to be fair what the science supports.

If we're going to do a modest increase, and we have the range from about 200 to 240, 220, I mean my math is a little rusty. But that seems about in the middle. Again, it doesn't crossover that threshold that starts putting us in harm's way. Then I guess the final note. You know the abundance is either due to our management actions or it is not. If it is due to our management actions, we're doing the right thing. If it's not due to our management actions, then apparently we have less control than we thought.

CHAIRMAN BALLOU: One minute caucus and then we'll vote on the motion to substitute. Okay I'm going to call the question. I'm sorry, Andy.

MR. SHIELS: Could we have a roll call vote, please?

CHAIRMAN BALLOU: We can, and we will, and we will move south to north and Megan will call the roll.

MS. WARE: U.S. Fish and Wildlife.

MR. MILLARD: No.

MS. WARE: NOAA Fisheries.

MR. BURNS: No.

MS. WARE: Florida.

MR. ESTES: No.

MS. WARE: Georgia.

MR. WOODWARD: No.

MS. WARE: South Carolina.

DR. RHODES: No.

MS. WARE: North Carolina.

DR. DUVAL: No.

MS. WARE: Virginia.

MR. O'REILLY: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Delaware.

MR. CLARK: Yes.

MS. WARE: Pennsylvania.

MR. SHIELS: No.

MS. WARE: New Jersey.

MR. ALLEN: Yes.

MS. WARE: New York.

MR. GILMORE: No.

MS. WARE: Connecticut.

MS. GIANNINI: No.

MS. WARE: Rhode Island.

MR. BORDEN: No.

MS. WARE: Massachusetts.

MS. MESERVE: No.

MS. WARE: New Hampshire.

MS. CHERI PATTERSON: No.

MS. WARE: Maine.

MR. KELIHER: No.

CHAIRMAN BALLOU: **The motion fails 5 to 13. We're back to the main motion;** and I believe Megan has a suggested clarification on that so I'm going to turn the microphone over to Megan.

MS. WARE: For the main motion, this sets a number that the TAC cannot exceed, but this does not specify what the TAC is in 2018 and/or 2019. If the intent for the maker of the motion is to set it at 216, perhaps we could do a friendly amendment. It says move to set a total allowable catch to not exceed and be set at 216.

MR. ESTES: That's fine.

CHAIRMAN BALLOU: Let's put that up there. **The revised motion, which is the main motion, which is the motion before the Board is to move to set a total allowable catch not to**

**exceed, and be set at 216,000 metric tons, until such time that ecological reference points are utilized for Atlantic menhaden management.** I was going to ask if there is any objection to making that friendly amendment. Seeing no objection; the motion as amended is before the Board, and we have apparently comments on it starting with Roy Miller and then Rachel Dean.

MR. MILLER: Did I hear Megan mention 2018 and 2019 as part of that friendly motion; because that wording didn't make it onto the board.

MS. WARE: I didn't. I think the intent, and makers of the motion please correct me, was that there not be years in this so I have not put in years. But I was just trying to clarify that the 216 is actually the TAC that they are interested in.

CHAIRMAN BALLOU: Rachel Dean.

MS. DEAN: I would like to think that this is a friendly amendment; but I think that we're probably going to want it as a substitute motion if I may. Can I do that at this time?

CHAIRMAN BALLOU: Well there is a big difference between a friendly and a substitute.

MS. DEAN: Let me read it out. Let me share where I'm going, and we'll go. I think that I would like to move to make a substitute motion that would say: **Move to set a total allowable catch not to exceed and be set at 216,000 metric tons for 2018 and 2019 or until such a time that ecological reference points are utilized for Atlantic menhaden management.**

CHAIRMAN BALLOU: I don't think that's a friendly. It could be an amendment, it could be a substitute. Let's just call it as substitute, just to kind of keep on track here.

MS. DEAN: I would like to speak to it if I could.

CHAIRMAN BALLOU: I'll give you that chance. I just want to make sure that it's up on the board clearly and accurately as you intend. This would be to, once Max gets done, move to substitute to set a total allowable catch not to exceed and be set at 216,000 metric tons for 2018 and 2019 or until such time that menhaden-specific ecological reference points be available for management use. Is that your motion, Rachel?

MS. DEAN: Yes.

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Steve Train? Rachel, would you like to speak to your motion?

MS. DEAN: At this point in time I guess I'm really kind of, Ritchie White said it that you know, I don't really think that I want to go through this again. To be honest, I'll go through it as many times as I need to, I will. I'll come here, I'll pack the bags and I'll come here. To be honest, I think that the public will too.

This isn't necessarily so that only the fishermen can state their case. But I think that I want the reference points. I'm ready for them. I just don't know if we can accomplish the timeframe. If we see something that tells us that we can increase that TAC, then I think that we should come back to the table and we should have that discussion. Just like we included the language that says not to exceed, so suggesting that we could reduce that.

CHAIRMAN BALLOU: Just so I understand exactly what this would do. This would set the quota at 216,000 metric tons for 2018 and 2019. You know this issue that it can't exceed; I'm not really sure how that plays in now, so I'm looking for clarification from either you or other members of the Board as to how they would view this.

Then it goes on to say or until such time that menhaden-specific reference points, which I guess would imply that it could happen sooner and if it does they would trump. But if they

don't happen sooner, it would be 216 for 2018 and 2019, and I'm just sort of wrestling in my own head with what not to exceed now, how that plays into this. Rachel.

MS. DEAN: Yes, and we would be back here at 2020, and I'll leave the second part of that question to I guess back to maybe the seconder.

CHAIRMAN BALLOU: That would be Steve Train, so Steve you're next.

MR. TRAIN: When I seconded this, my understanding would be that with the dates on there we could decide after 2019 whether to continue to wait if the numbers were not available, or we could act and set a new number. That's where the "or" is. That is what I thought I was seconding.

The reason I think that is important is although we have a lot of faith in getting the ecological reference point numbers out for 2020. If the peer review doesn't accept it, or we run into other problems, we could be into 2023, working under 216,000 metric ton. I think a date certain is important; but it gives us a chance to extend it if we think we're getting close with this "or" in this part of the motion.

CHAIRMAN BALLOU: Robert Boyles.

MR. BOYLES: This is good conversation, and I'm struggling with this as well. I think my interest in this portion of the discussion and the debate is and Mr. Estes made the comment at the very beginning about accountability. I think in some of my conversations over the last several weeks, I may have shared with you concerns over further delays in biological/ecological reference points.

My interest in the main motion as I understand it and in reference to Mr. Estes was this was some internal accountability. Having said that and I would look to you, Mr. Chairman. I don't know that anything that we do here today necessarily binds a future Board. If conditions

change, I would think that as Ms. Dean referenced, we would come back and look at those conditions to see, is it time for a course correction?

But again, my interest in the main motion, and I think in the substitute, I'm not clear, is some internal Board accountability. To take Mr. McMurray's point, you know we had thousands, tens of thousands of comments from the public saying you all commit, you all do this. You all do biological/ecological reference points.

I think the message, I hope that was sent yesterday is we are committed. I've seen no disagreement about that around the table. This is just designed to provide a little bit more internal accountability. I need to wrestle with the substitute; but again, if we can get to the substitute. If the substitute ensures that internal Board accountability then I can support it.

CHAIRMAN BALLOU: I've got Adam Nowalsky next.

MR. NOWALSKY: I'm in support of the idea of adding a timeline. My question with the two years at this point, as we've gone through the discussion and I know it was my motion earlier. Is that enough or if we're going to go down the road of holding ourselves accountable as a Board. Before I get to that question, let me just say that accountability to ourselves and the public. You know we've heard comments asking why we aren't doing exactly what the public asks us to do. Well, there were other comments that asked us to do certain things here.

Just because we didn't do exactly what any one of those people wanted us to do, didn't mean that we haven't considered it, and it hasn't strongly factored into our ultimate decision that we make around the table here today in future decisions. I think all of that public comment on both sides is excellent. It's needed; and it helps hold us accountable, and I think that we're being responsive to it. But my question at this

point is that should the ERPs get done as we heard yesterday what their cautiously optimistic about, I think was the term I heard, and should they be peer reviewed in 2019. Would our spec setting process for 2020 already have occurred by the time they're available to use, and would the timeframe here not be better for 2018, '19 and '20, because our spec setting process would already have occurred in 2019?

MS. WARE: There is not obviously a date for that peer review yet in 2019; so I can't say what month that is going to occur. It is important to consider that specification process for 2020. What I can say is that Amendment 3 says that the Board can following peer review of those menhaden-specific ERPs, can adopt those through Board action or through an addendum process. An amendment is not needed, so if it's through Board action those could be implemented in 2020. An addendum would obviously take a little bit longer, but it facilitates public comment if the Board is interested in that.

CHAIRMAN BALLOU: Adam, do you have a follow?

MR. NOWALSKY: Does staff feel if the cautiously optimistic timeline of development of ERPs comes to fruition, is 2018 and 2019 spec setting enough? Would those ERPs be useful to us in a reasonable timeframe for 2020, or would we still need spec setting for 2020 without use of the ERPs?

CHAIRMAN BALLOU: Bob Beal.

EXECUTIVE DIRECTOR BEAL: Let me give it a try. Keep in mind that spec setting is not part of Amendment 3. That is outside the Amendment 3 framework. Specs are something that needs to be done either multiyear, single year, however this Board chooses to do that. If 2020 is added to this motion, and I'm not saying whether it should or shouldn't be.



Then if the ecological reference points are available and the Board wants to modify the 2020 total allowable catch that will take a two-thirds vote by the Board. Robert Boyles hinted at this a minute ago. You know the actions of this Board really can't tie the hands of any subsequent Boards or subsequent meetings of this Board.

Even though this motion says 216, not to exceed 216 for the next two years, if there is a compelling reason and this Board votes through a two-thirds majority to make a change, even in 2019. They have that ability. The Board can't tie the hands of future Boards. ASMFC and the Policy Board and the Charter reflect that.

There is a Commission-specific provision that any final actions taken by the Commission and spec setting is a final action, can be rescinded or modified through a two-thirds vote. Including 2020 in here would then have that two-thirds majority requirement in place to change 2020. The flexibility is still there, the hurdle is just a little bit higher, and I think it would need to be compelling to more of the Board to make a change in 2020. That is the quick procedural summary of where we are, and the Board can decide where to go from there.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: I'll pass.

CHAIRMAN BALLOU: Dr. Rhodes.

DR. RHODES: Well, this is just a question. I don't see a difference between these two motions; other than we're setting a limit for two years and having an "or" in there. If we do not have the ecological reference point's ready in 2020, we default back to 216. It's an identical motion the way it's written with the "or" in there, I believe. I mean I'll stand for other people reading it. But the way it reads is we're setting it for '18, '19, and then we have "or" so if 2020 it's not ready, doesn't it default back to 216 the way it's currently written?

CHAIRMAN BALLOU: Let me do this. I have several folks on the list, but I would like to ask if anyone has a response to the issue just raised by Dr. Rhodes; and I see three emphatic hands up, so I'm going to go left to right, Robert Boyles first.

MR. BOYLES: Point of parliamentary inquiry, Mr. Chairman. What is two-thirds vote of this Board?

EXECUTIVE DIRECTOR BEAL: It depends. The provisions of the Charter say that there are 18 votes on this Board, so two-thirds; you know you get the math. But there is a provision that if the Federal Services abstain, the denominator can change so it can be 18, 17, or 16, depending on the number of votes cast by the Federal Services, so it depends.

CHAIRMAN BALLOU: Rob O'Reilly, and if you could, Rob, just specifically to the point that Dr. Rhodes raised a minute ago regarding the difference between these two motions. I think it's important to kind of focus on that first, and then we'll go to the other comment.

MR. O'REILLY: Highly focused. I think, do we have a default position? Didn't we run into a little bit of trouble when we realized we really couldn't fall back to a quota from the previous year or a TAC? If that has not been remedied then Dr. Rhodes suggestion might run us into a problem again.

CHAIRMAN BALLOU: Are you speaking to the Indecision Clause that's in the document?

MR. O'REILLY: And what we did with the Indecision Clause, yes.

CHAIRMAN BALLOU: We agreed that if the Board could not agree on specifications for the next year that specifications in place for the last year, the current year as it were, would continue forward. It would be a status quo situation.

MR. O'REILLY: Thank you, Dr. Rhodes.

CHAIRMAN BALLOU: Rachel Dean, on the specific issue of the difference between these two motions.

MS. DEAN: Yes, I think that we've mentioned before that sometimes it's just to keep it in our memory, and by including the 2018 and 2019, my intention there was just that we would be reminded that these discussions can happen. That is not to say that those discussions wouldn't happen if it wasn't in there; but again, I just want that reminder that the option is there.

CHAIRMAN BALLOU: I have four more people on the list, and then I'm going to see if the Board would like to move forward with voting on this. Next is Tom Fote.

MR. FOTE: Our long history of setting two-year, three-year specs have not worked out so well; especially with some of the species we've gone through like summer flounder, black sea bass and others. I agree with Malcolm; this is a lot to do about nothing. Either one of the motions mean the same thing to me, because we're going to bring it up for discussion.

I guess the first motion is just clearer. I don't like putting years in, because we have a habit of pushing years off anyway. The Board can decide. It reminds me of New Jersey's budget. Most people don't realize in New Jersey that when you pass a budget every year it supersedes all the other budgets.

All the dedicated funds you made for the last 20 years can be superseded by the next budget, which is unusual I think for any other state but New Jersey, because we do things kind of funny there. This reminds me of that; because we always have the option of coming back and doing whatever we want the next following year, it just takes a two-thirds vote, and if anything is that strong we should do it. I support 11, just because it makes it clearer.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: It was really more a point of information. My understanding, in terms of timeframe, you know with regard to the menhaden-specific ecological reference points that the peer review is right now currently expected to be completed by 2019, in conjunction with the new benchmark assessment, correct? Okay I'm seeing nods from staff around the table. That was the only point I wanted to bring up is that those will be in conjunction with the new benchmark.

CHAIRMAN BALLOU: Loren Lustig.

MR. LUSTIG: First of all I would like to sincerely complement Rachel, for her use of the word honesty. Not only did she use it sort of introspectively for herself, she also referenced the honesty given to us by the recreational anglers who are in this room, who represent tens of thousands of additional recreational anglers.

I'm really big into honesty and civility during this discussion. Now, somebody mentioned the word levity recently; especially in regards to Dr. Seuss. I assure you I am deadly, deadly serious about this whole matter, okay. There is a time for levity, but there is also a time for serious consideration.

CHAIRMAN BALLOU: Ritchie White – pass, last comment on this, Doug Brady.

MR. BRADY: To Dr. Rhodes point. Under 13, do I take it to read that there is no possibility until ecological reference points are available that the TAC could be over 216,000 metric tons? I mean I think both motions are saying that if you adopt either one there is no possibility the TAC would be set over 216,000 metric tons until we get ERPs. Is that the way I would read this?

CHAIRMAN BALLOU: My reading is that Motion 13 specifies that for 2018 and 2019 the TAC shall be set at and shall not exceed 216,000 metric tons. That could be trumped, because it then says "or" until such time that menhaden-

specific ecological reference points be available for management use.

I take it therefore that it would be open; in terms of what the specifications would be for 2020. It would require a subsequent Board action versus Motion 12, which would enable that same metric, if you will, to continue forward beyond 2019. I don't see that and maybe I'm misreading it, and if I am and I see Rachel's hand up, please clarify, so Rachel.

MS. DEAN: I think it should probably say "or unless."

CHAIRMAN BALLOU: Do you want to urge that that be modified as such?

MS. DEAN: Please.

CHAIRMAN BALLOU: ***Let's see if there is any objection to modifying the substitute to replace the word "until" with the word "unless." Is there any objection to making that amendment to the substitute motion? Seeing no objection; the substitute motion is so amended.*** Are there any other particularly members of the Board who have yet to speak on this issue who would like to before we call the question? There has been obviously a little bit of an added wrinkle just noted. Eric Reid.

MR. REID: At this point we're splitting hairs, and in my case I don't have the luxury of being able to do that all that much. That's levity without Dr. Seuss if you don't mind, I appreciate that. That is what we're doing. What I would really like to see is take a five minute break. Let the four people involved in these two motions figure out what they really want to say and get it over with; instead of spending the entire Board's time trying to do the same thing, Mr. Chairman.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: I've been sitting here for, when I was going to speak the last time that I was

interested in making a motion to limit debate; which would require a vote of the Board, because I think we've heard enough. Just like Eric just said, it's time to vote, and if the Board is interested in voting, **I think I would like to make a motion to limit debate.**

CHAIRMAN BALLOU: Is there a second to that motion? Seconded by Loren Lustig, **is there any objection to the motion to limit debate and vote on the substitute motion? Seeing no objection; we will close debate and we will caucus for 30 seconds and then vote on the substitute motion.** Okay, before I call the question I believe Robert Boyles has a point of inquiry.

MR. BOYLES: I was asking ISFMP Director and the Executive Director to clarify for me what staff's interpretation of the difference between the two. My question specifically related to the question of binding future Boards. I think Toni had some comments that helped clarify it for me that may help the Board.

CHAIRMAN BALLOU: Toni Kerns.

MS. TONI KERNS: Two things that Robert and I talked about; sort of the difference between these two motions. Under 13 the Board would come back and revisit specifications after 2019; regardless of the progress of the ecological reference points. Under 12, you could continue on until perpetuity, I guess.

Then under either motion, if the Board wants to have a TAC that is different than 216 in future years, you would have to come back and do a two-thirds majority vote, because you have set a TAC at 216, even if it is less than 216. Under Motion 12, you still have to come back and have a two-thirds majority vote, because you've set it at 216 in this motion. Under 13 you only have to do the two-thirds majority vote for '18 and '19, because you haven't set a TAC beyond that in Motion 13.

CHAIRMAN BALLOU: Does that answer your question, Robert?

MR. BOYLES: Yes sir, thank you.

CHAIRMAN BALLOU: We've ended debate. Are there any clarifying questions? Really, Loren, I'm hesitant to go to you only because we really have closed debate, caucused, and we're really ready to vote. I would take a question, but only on a point of order. Go ahead, Loren.

MR. LUSTIG: Pennsylvania requests a roll call vote.

CHAIRMAN BALLOU: That is an appropriate request. We will have a roll call vote; and I will ask Megan to call the roll moving from north to south.

MS. WARE: Maine.

MR. KELIHER: Yes.

MS. WARE: New Hampshire.

MS. PATTERSON: Yes.

MS. WARE: Massachusetts.

MS. MESERVE: No.

MS. WARE: Rhode Island.

MR. REID: No.

MS. WARE: Connecticut.

MS. GIANNINI: Yes.

MS. WARE: New York.

MR. GILMORE: No.

MS. WARE: New Jersey.

MR. ALLEN: Yes.

MS. WARE: Pennsylvania.

MR. SHIELDS: No.

MS. WARE: Delaware.

MR. CLARK: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

MS. WARE: Virginia.

MR. O'REILLY: Yes.

MS. WARE: North Carolina.

DR. DUVAL: Yes.

MS. WARE: South Carolina.

MR. BOYLES: No.

MS. WARE: Georgia.

MR. WOODWARD: No.

MS. WARE: Florida.

MR. ESTES: No.

MS. WARE: NOAA Fisheries.

MR. BURNS: Yes.

MS. WARE: Fish and Wildlife.

MR. MILLARD: Yes.

**CHAIRMAN BALLOU: The motion passes 11 to 7. The substitute becomes the main, and I would like to think that we might be ready to take final action on this particular issue; and**

then perhaps have a break and take on the other issues. Unless anyone wanted to make any other motions to amend or substitute. I'm not encouraging that I'm just making the offer. Dennis Abbott.

MR. ABBOTT: I would make another motion to limit debate. I think we've had enough debate on this; it's time to vote.

CHAIRMAN BALLOU: Okay. Is there any objection to limiting debate and taking final action at this point? Seeing no objection; I appreciate the sentiment. I don't think we need to put that in the form of a motion. There is unanimous consent on the part of the Board to do that; so we will now do that. This will be the main motion. We will take a vote. Is there a request for a roll call? Oh, it has to be a roll call because this is final action on specifications. That said; we'll call the roll and we'll just stay with the flow on going north to south.

MS. WARE: Maine.

MR. KELIHER: Yes.

MS. WARE: New Hampshire.

MR. ABBOTT: Yes.

MS. WARE: Massachusetts.

MS. MESERVE: Yes.

MS. WARE: Rhode Island.

MR. REID: No.

MS. WARE: Connecticut.

MS. GIANNINI: Yes.

MS. WARE: New York.

MR. GILMORE: Yes.

MS. WARE: New Jersey.

MR. ALLEN: Yes.

MS. WARE: Pennsylvania.

MR. SHIELS: No.

MS. WARE: Delaware.

MR. CLARK: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

MS. WARE: Virginia.

MR. O'REILLY: Yes.

MS. WARE: North Carolina.

DR. DUVAL: Yes.

MS. WARE: South Carolina.

MR. BOYLES: Yes.

MS. WARE: Georgia.

MR. WOODWARD: Yes.

MS. WARE: Florida.

MR. ESTES: No.

MS. WARE: NOAA Fisheries.

MR. BURNS: Yes.

MS. WARE: U.S. Fish and Wildlife.

MR. MILLARD: Yes.

CHAIRMAN BALLOU: **The motion passes 15 to 3; and** we have dispensed with that agenda

item, and we are now going to take a ten minute break and reconvene at 10:04. Thank you.

(Whereupon a recess was taken.)

CHAIRMAN BALLOU: I'm going to call the meeting back to order. The next order of business is to continue forward with the other issues in the amendment. Moving in sequential order the next would be quota allocation and timeframes. As set forth in the amendment there are six options for allocation methods; and five options for allocation timeframes. The intent is to find a way to move on both; a sort of Tier 1 approach combined with a Tier 2 approach. With that is there anyone who would like to make a motion on the issue of quota allocation and timeframes? Pat Keliher.

MR. KELIHER: Last night I had indicated I had put together a bundled motion; and after thinking through it last night, and after going through this morning, I have broken it apart and I have sent Megan some language that needs to be tweaked just a little bit. She may have already tweaked it.

**I would move to choose the following options in Draft Amendment 3: Section 4.3.2 Allocation Method Option C with a jurisdictional allocation with a Minimum Base Allocation of 0.75 percent fixed minimum for the Quota Timeframe of 2012 to 2016. Section 4.3.3 Quota Transfer Option A: Quota Transfer would be permitted. Section 4.3.4: Quota Rollover Option A: Unused Quota May Not Be Rolled Over.** I will end there; Mr. Chairman.

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Ritchie White? Moved by Pat Keliher; seconded by Ritchie White to do just what Pat read into the record, and is now up on the screen. Is there discussion on the motion? Emerson Hasbrouck.

**MR. HASBROUCK: I would like to offer an amendment to that motion.**

CHAIRMAN BALLOU: Go ahead.

**MR. HASBROUCK: Such that Section 4.3.3 Allocation method Option C; jurisdictional allocation with a minimum base allocation of a 1.0 fixed minimum.**

CHAIRMAN BALLOU: Is there a second to that motion to amend? There is, Nichola Meserve moves to second the motion to amend, so moved and seconded to amend the main motion by changing what I understand to be the first part, and that is in lieu of a 0.75 percent fixed minimum, a 1 percent fixed minimum. I'm sorry, I know Max is putting that up on the board, but Emerson did you want to maintain the quota timeframe of 2012 through 2016?

MR. HASBROUCK: Yes.

CHAIRMAN BALLOU: Maybe we don't need that. I guess we're just modifying that one portion therefore of the first bullet in the main motion; discussion on the motion to amend, Jim Gilmore.

MR. GILMORE: I actually can support both motions. But we're back in the same issue is that a 1 percent to me is cleaner; because we essentially cover I think everybody's fishery, in terms of both bait harvest and possibly episodic event. We go into a 0.75 then I would feel more comfortable, and I probably would argue later on that we go and have some episodic event, you know because we're kind of pushing up against maybe some of the actual harvest going on right now. It's another chicken and egg thing. I like 1 percent without episodic event. I like 0.75 with an episodic event.

CHAIRMAN BALLOU: David Borden.

MR. BORDEN: I would just like to follow up on Jim's point; and point out a nuance of the linkage here with other issues. The percentages can be used by any state; regardless of what the percent is. The percent can be used by any state for catches in both state and federal

waters episodic program can only be used for catches in state waters.

Now that sets up the dynamic where, and I'll use Rhode Island as an example of this so everybody understands it. The guy sitting immediately to my right had some of the vessels in Point Judith landing menhaden from federal waters. They were part of a herring catch. If you have one program you can land those, and if you have the other type of program you can't land those. This subtle distinction that a percent is, I think more desirable from a coastwide perspective as opposed to the episodic program.

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: I'm not opposed to the motion to amend. I think I would still argue for some sort of an episodic, because of the potential for fish die offs that we have within the state of Maine are real, and have big economic impacts. I was trying to not look like I was going for too much of a fish grab here; to be honest, trying to have some recognition to both New Jersey and Virginia and also to the other jurisdictions to the south. I can go either way; but I would want to see some sort of an episodic, and obviously I'll talk to that later.

CHAIRMAN BALLOU: Emerson Hasbrouck.

MR. HASBROUCK: My motion to amend does not preclude an episodic event. My motion does not relate to episodic events at all. That's another issue. But also, in terms of minimum allocation, states like New York and there are other states as well, did not have a very good data collection system in place for bait fisheries, which includes menhaden.

There were other species as well. In New York, we weren't able to get our reporting system in place until just over the past few years. Now that we've got that reporting system in place, we realize that the fishery is more extensive and more robust than what was originally

recorded or not recorded. I think with again at least a 1 percent, it could even go for more.

But 1 percent brings us to a place where we can cover our current fishery with a slight expansion. Additionally, in terms of public comment, we've heard a lot yesterday and today about public comments. I know that in New York, and I don't recall from Megan's presentation yesterday public comment in other states. But there was significant public comment in support of states having at least a 1 percent fixed-minimum.

CHAIRMAN BALLOU: Ritchie White.

MR. WHITE: I struggle with this, but I'm going to oppose the amendment. When I originally talked about a 216,000 ton quota, I talked about compromise and I talked about trying to meet everybody in the middle. My concern with the 1 percent is that it will not keep Virginia and New Jersey whole in this process.

I say that we don't have to keep Virginia and New Jersey whole. This is allocation. But I think in a compromise situation, I think it will be wise to. I think the three-quarter percent; I believe we can make both those states whole, combination of the quota they would get and then added to that would be some chance at the unused allocation that would go into a pool from the states that would not be using their three-quarter percent. Based on that thinking I'm going to oppose 1 percent and stick with the original motion.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: I oppose the amendment, the 1 percent, also in opposition to the idea that having a combination, which was mentioned of Episodic Event, which is about 4.8 million pounds, and then tacking on this 0.75, which is pretty close to about 58 million pounds. They are definitely not linked in magnitude. I mean a 1 percent Episodic Event is relatively small; compared to providing a minimum, even at a half a percent to all the states.

The problem is the way things stand now. If you look at 2012 through 2016, the best performance by the states that would be receiving the minimal, in addition to the three states that are already above 1 percent is there would be a lot of unused quota. That might be okay for some states that wish to do that.

We talked about opt-in and opt-out; but clearly, I don't want to call this a precedent, because it's been around, but other than American eel, where certain states were provided 2,000 pounds that did not have previous landings. That was done in the quota-building process, and the quota hasn't come due yet. But that was in a process taken by the ASMFC. Here we already have a quota system; and part of the situation is going to be a minimum, which we're not sure what will happen. Clearly, I would rather substitute for this if you don't mind.

CHAIRMAN BALLOU: I prefer to vote first on the amendment; and then entertain a motion to substitute.

MR. O'REILLY: I think that's fine; but please know that Virginia is opposed.

CHAIRMAN BALLOU: Other comments on the motion to amend. Is the Board ready for the question? Is there a need to caucus; 30 second caucus? Robert.

MR. BOYLES: Maybe a question for staff. At the TAC at 216,000 metric tons, just for my purposes can you tell me what that equates to in pounds?

CHAIRMAN BALLOU: Megan is looking that up.

MR. BOYLES: And what 1 percent equals, if you would, please Megan.

MS. WARE: The total TAC in pounds is 476,198,486; and for 1 percent it is like 4.76 million, roughly.

CHAIRMAN BALLOU: Okay I'm going to call the question. All in favor for the motion to amend please raise your hand. Hands down; those opposed please raise your hand. Hands down; thank you, null votes, abstentions, we have two abstentions. **The motion fails 6 to 10 with 2 abstentions. We're back to the main motion. Rob O'Reilly, did you want to offer a substitute?**

MR. O'REILLY: Yes, and I'll have some brief remarks about it. **But I would move to substitute Option F under Section 4.3.2 as the allocation method.**

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Dave Bush. Moved by Rob O'Reilly and seconded by Dave Bush to substitute what I understand to be, is it your intent, Rob to substitute the entire main motion with your substitute motion?

MR. O'REILLY: My understanding, it would just be at the top of the main motion with the allocation method; not the transfers and not the rollover.

MS. WARE: Rob, there are two sub-options for Option F. Do you want to include which sub-option you are interested in?

MR. O'REILLY: I was hoping that would be discussed after this; because that has an importance of its own, in terms of the allocation. I think really what we're looking at in F is we have reached that situation with Sub-option 1, where it would be a 50/50 distribution between bait and reduction, and Sub-option 2 is 70 percent to bait, 30 percent reduction.

The reason I'm hesitant to declare one is I think, just like Robert Boyles just did. I think it's important that we know the outcome of Sub-option F; in terms of what's going to be available. I don't think anyone is working on their calculator fast enough to help me out on that. We're looking at when 212,500 are exceeded, which with 216,000 it is.



That's going to leave approximately another 212,500 is 468.4 million, and 216,000 metric tons is 476.1 million. We're looking at about 8 million pounds. I think in the sense of fairness, I think we ought to know that the Board can say, well that either does help my situation or it does not. That is a really long response, Megan.

CHAIRMAN BALLOU: It's okay, and it does sound like that if I understand how this would go that if the Board were to approve this amendment, there would then be a subsequent motion to clarify the particular sub-option associated with this.

MR. O'REILLY: That's correct.

CHAIRMAN BALLOU: Okay I'll take comments both in favor and opposed. If you wish to speak in favor of this motion, please raise your hand, question, John Clark.

MR. CLARK: Option F states that the timeframe is 2009 to 2011; whereas the motion states the timeframe is 2012 to 2016. Could Rob clarify which timeframe he wants to use for Option F?

CHAIRMAN BALLOU: I think Megan has a response.

MS. WARE: The part up to the 212,500 metric tons that is our current allocation method; so that is based on the 2009 to 2011. The part above, so the difference between 216 and 212,500 metric tons, I am assuming that is what that 2012 to 2016 timeframe is applying to. We can try and clarify that if you would like in the motion.

MR. CLARK: Well, that is kind of confusing, because under Option F the additional is just either divvied up between the bait and the reduction fishery. It doesn't say anything about a timeframe there. The base option F does specify a timeframe; and it's not the timeframe that is in the motion right now. That is where we need some clarification.

MS. WARE: Yes, so what the amendment says is for the sub-options; depending on if it's a 50/50 or a 70/30 split. That distribution is "based on landings during the timeframe chosen in Tier 2," which is the timeframe options. That difference, and if we need to I can pull up the picture that describes this option, because maybe that will help. But I'll look to Rob to see if he is looking to have that difference be based on the 2012 to 2016; and maybe if he is we can clarify that in the motion.

MR. CLARK: Well, Megan I'm just saying that it says at or below a TAC of 212,500, which is our base situation. The quota is allocated based on average landings from 2009; you know the current allocation method, whereas this motion up here would imply that no, we're not using that timeframe. It makes a big difference to states like ours which timeframe is used.

CHAIRMAN BALLOU: John, this is my take on where we are. Rob's motion to substitute would replace all of the first bullet in the main motion. That quota timeframe 2012 to 2016 would not apply; because it's not applicable to Option F. ***This is a motion, and make sure it's correctly worded.***

***Substitute Option F under Section 4.3.2: fully replacing the way the current main motion is proposed with regard to Option C, and what Megan has been referring to is that if this motion were to pass, we would necessarily have to come back and address the timeframe issue associated with a delta between 212,500 and 216.*** Does that make sense?

MR. CLARK: Yes, I have that. Okay, it's just the way the motion is. I see, so the entire timeframe is gone then from the original motion.

CHAIRMAN BALLOU: That is my interpretation. Rob, do I have that correct?

MR. O'REILLY: You do, and Megan had it right as well. Another decision would have to be

made if this passes. Then we'll have to choose one of the sub-options and also the timeframe is under Tier 2.

CHAIRMAN BALLOU: Okay, we have a few hands up. I guess I'll just try and just alternate back and forth, without necessarily figuring out if it is pro or con. I'll go next to Adam Nowalsky.

MR. NOWALSKY: We have a motion to substitute; but if I'm clear on what you're saying, we're not substituting 18 for 16; we're only amending 16 to remove the first bullet point with the information contained in 18.

CHAIRMAN BALLOU: That's correct.

MR. NOWALSKY: Okay so that would probably best be clarified as an amendment to the original motion then.

CHAIRMAN BALLOU: I concur, so let's make it that; thank you for that clarification, so motion to amend the first bullet in lieu for substituting for the entire motion, thank you. It is now a motion to amend and it only refers to the first bullet under 16; with that further discussion on the motion to amend. Nichola Meserve.

MS. MESERVE: I can't support the substitute motion. I don't feel that this Option F meets one of the main objectives of this amendment document; which is to develop a management program which ensures fair and equitable access to the fishery for all regions and gear types. Given the TAC that we have selected, this is going to redistribute a very small amount of quota to the other states, and not meet the needs that we have identified.

There has been some discussion that while we can use the Episodic Event Program to address those needs still. But as pointed out that doesn't provide for the state flexibility to manage that episodic amount as best fits the needs of the states. I can't support the substitute and support the main motion.

CHAIRMAN BALLOU: David Bush.

MR. BUSH: One of the reasons why I supported this, and let me preface it with it's no front page news that North Carolina has long had a reduction fishery until of recent years when we decided that was the route we didn't want to pursue anymore. We would most certainly like to have more poundage than we have; at least enough to make it economically feasible to pursue a bait fishery. We most certainly would love to do anything we can to get that without damaging those who depend on it on a regular basis.

We won't pursue that bait fishery at the expense of communities that rely on it. We understand that different states have different fisheries that they are heavily reliant on. We all know that North Carolina has a big fishery that we're reliant on. While we would pursue a bait fishery at almost all cost, we would not do so at the expense of other communities, other infrastructures, other states that have grown to rely on it due to the actions of this Board.

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: I want to echo Nichole's comments. I'm having a real hard time with this being equitable. What I was trying to move forward in the original motion was some sort of balance between the jurisdictions. Maine caught over 4 million pounds alone; and if my rough last year and my rough estimates, this would split between jurisdictions just under 5 million, if our math is right. I've got very big problems with this motion; and I will be opposing it.

CHAIRMAN BALLOU: Emerson Hasbrouck.

MR. HASBROUCK: I'm also opposed to this amendment. I agree with Pat and Nichola that this does not meet the goals of equitable distribution to states that don't have much quota.

CHAIRMAN BALLOU: Any other comments on the motion to amend? Seeing none; is the Board ready for the question? If so, do you need time to caucus? Let's give it a 15 second caucus, just to make sure. Okay, it looks like the Board is ready. **All in favor of the motion to amend please raise your hand, thank you. Those opposed, please raise your hand, thank you. Any null votes, any abstentions? We have two. The motion fails 1 to 15 with 2 abstentions. We're back to the main motion.** Is there any further discussion regarding the main motion? Seeing none; is the Board ready to vote on the main motion, which has three parts? There it is up on the board. This would be a vote on all three parts; the allocation methodology, the timeframe, quota transfers and quota rollovers. It would address all three components.

If the Board is ready for the question I will call it. **All in favor of the motion please raise your hand, thank you. Opposed please raise your hand, thank you; any null votes, any abstentions? We have two. The motion passes 14 to 2 with 2 abstentions.** We are moving along. Now up to, let me pause. There is a motion that was tabled. Is there any interest in bringing that back now or at any point? I guess that's a decision for the Board. Adam Nowalsky.

MR. NOWALSKY: **I would move to bring that previous motion, take it from the table.**

CHAIRMAN BALLOU: Is there a second to that motion to bring the tabled motion back? There is; it is seconded by Emerson Hasbrouck. Moved by Adam Nowalsky and seconded by Emerson Hasbrouck, to bring back the tabled motion for consideration by the Board. I forget whether this is even debatable or not.

**But let's just see if there is any objection to doing that. Seeing none; that motion is back before the Board** and we'll wait for Max to try to catch up and see if we can get that back up on the screen. Okay, I think we have it up. Let's

just make sure we've got it correct. I know there were a couple tweaks made to it. I assume this is the motion as it stood prior to when it was tabled earlier this morning; so it's back before the Board, discussion on this motion. Emerson Hasbrouck.

MR. HASBROUCK: I have a question about process here. I generally support this motion. However, is the decision on states opting in or opting out, is that going to be brought back to the Board for decision at our February meetings, or is this going to be a staff decision or an Administrative Committee decision? How is that going to work?

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: The way it is crafted is that any quota that is not received by state is then redistributed to the other jurisdictions. I see it this is a staff effort to say this is where we are, as far as what states have requested. It goes into a pot, and then that would be automatically redistributed.

CHAIRMAN BALLOU: Emerson Hasbrouck.

MR. HASBROUCK: Thank you, yes follow up on that. I'm referring to the part that says in terms of opting in: that the states which opt in much demonstrate that the state has the intent and ability to commercially harvest some or all of its menhaden quota, et cetera, et cetera, and how it could be demonstrated et cetera. I understand the part of it just going into a common pool; but who is going to make that determination as to whether or not the states have the ability to catch their allocation if they opt in?

CHAIRMAN BALLOU: Pat, do you want to speak to that?

MR. KELIHER: I'll try, Mr. Chairman. The way I've envisioned it, maybe wrongly here, is that states would submit with their request what they have for regulations on the books

associated with that fishery. If a jurisdiction didn't have regulations on the books associated with that fishery, then they wouldn't be able to request quota associated with it. In concept that is where I was trying to go.

CHAIRMAN BALLOU: Discussion on the motion; John Clark.

MR. CLARK: Just further clarification I guess; because you have the option to opt out of the program, so you can either opt out or opt in. You have to opt in, and if you do opt in you have to prove you can catch what you're – I'm sorry if I'm repeating some of the things here. It just seems a little contradictory here, these first two lines.

CHAIRMAN BALLOU: I'll leave that open unless somebody wants to grab onto it. Next I have Steve Train.

MR. TRAIN: I like this option. The last thing we just voted on prevents rollover; which I think is a good thing. But we're talking about a highly migratory species up and down the entire east coast. Sometimes they're in some places and sometimes they aren't. We're not allowing the rollover, yet the population might be healthy.

We have some jurisdictions that might not choose to prosecute this fishery; but we've determined that the resource is healthy, and some areas may be seeing a larger abundance. To allow this to happen and go back in a general pool, I think is perfectly reasonable and a very healthy thing to do as far as the fishery goes.

CHAIRMAN BALLOU: Jim Gilmore.

MR. GILMORE: Just to go back to Pat's comment, because it made me feel a lot more comfortable with this motion. The bar would be if you have regulations in place to harvest that would be the only requirement you would need; and if that's the case, I'm completely okay with this and support the motion.

CHAIRMAN BALLOU: Pat, do you want to say that on the record, please?

MR. KELIHER: That's the intent.

CHAIRMAN BALLOU: That could be clarified in the motion. It's up to the Board to decide whether they want to try to perfect this, clarify it. But we've just had a good exchange regarding intent. Next I have Rob O'Reilly.

MR. O'REILLY: I think roughly it looks like about 43 to 44 million pounds from the last motion on the 1 percent would be allocated; and clearly that exceeds the capacity that we think we know around the table. My question is, the last motion also talked about the transferability. I'm wondering how that coupling works with the opt-in situation opt out. For example, which comes first or are they coupled together? A state may choose to opt out, and then does the state have the ability to transfer right after that?

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: There are probably a hundred different "what ifs" here. Again, the intent, jurisdiction opts in; they don't have fish within their state waters. They are not harvesting those fish. They end up with a surplus at the end of the year. The ability is for another state could request a transfer to help with any overage that might have happened within their jurisdiction. I'm trying to create some certainty up front for states that will promulgate fisheries; and the flexibility on the back end, in case they go over what their targets are.

CHAIRMAN BALLOU: Russ Allen.

MR. ALLEN: I have a few problems with this motion. One of those hits really hard at New Jersey; because we already have two species where we have quota that we do not use. One is striped bass; where we have a commercial quota, and we have as everybody knows, a

recreational program that allows some of that harvest.

But we do not reach the total harvest. The other is horseshoe crabs; where we have a quota that we do not use. I would really have a hard time if this passed; trying to defend how we don't use that horseshoe crab quota. It's really hard for me to even think about this. I can feel for Pennsylvania on that one; where they are trying to be conservative, and this doesn't let them do that.

CHAIRMAN BALLOU: Senator Miner.

SENATOR MINER: I'm trying to get, I guess a feel for the sentence that says any quota that is not received by a state would then be redistributed. Is it the intent here that that redistribution could occur either at the front end or in the back end of that given year; so it either could be used to cover overages of another jurisdiction or it could be used in the pool on the front end, to theoretically increase the quota that states might get that are still in the fishery?

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: The intent is for it to be redistributed on the front end. The ability within the last motion spoke to the ability to transfer. That would be on the back end of the fisheries.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: A couple things I guess. I apologize that on the previous motion, I just wanted to clarify for the record that our vote was based on the timeframe, not necessarily the method that was used. That timeframe was not really good for North Carolina; but it is what it is. I'm still struggling with demonstrating intent and ability to commercially harvest some or all of that quota; and I guess I'm concerned about if there are years where due to whatever.

I mean we're in a hurricane belt; you know that impacts a lot of our fisheries pretty significantly, and if folks don't have the opportunity to get out there that it would impact our ability to opt in to our full allocation. I'm still struggling a little bit with that part of the decision making process. I absolutely appreciate what Pat's trying to do here; just trying to wrap my head around it.

CHAIRMAN BALLOU: I'll just say, my understanding of the way this motion reads is that there are three ways that you could demonstrate your intent and ability. One would be the issuance of permits for applicable gear types or species. The other would be via historic landings. The other would be the abundance of menhaden in state and/or federal waters. As I read this motion literally, those are the three standards that would be applied to a state's request. Dr. Duval.

DR. DUVAL: Follow up. I mean right now the timeframes for harvest that we're using in this amendment did not allow states and jurisdictions that previously had reduction fisheries to be able to. Those landings were not included in those historic timeframes; so are we going to be allowed to use that as demonstration of availability of menhaden in our waters?

CHAIRMAN BALLOU: I guess I have my interpretation; but I would rather look to the maker of the motion as to what your intent is with regard to historic landings, and how that should be applied.

MR. KELIHER: To the literal sense, historic landings. I was trying to be inclusive; as we developed this in trying to give some flexibility. It is any one or combination of those three criteria. In my mind, Maine had a reduction fishery at one time. That would come into play here if we were in the situation to want to consider the use of this.

CHAIRMAN BALLOU: I'll just challenge you; if you don't mind. Does historic in your opinion mean any time prior to, or at some fixed time prior to or during some fixed timeframe prior to?

MR. KELIHER: In my mind it is any time prior to.

CHAIRMAN BALLOU: That clarifies the intent. Andy Shiels.

MR. SHIELS: We're in a unique position; and I really appreciate Russ Allen mentioning that. This really looks extremely complicated for something that could be very simple. The question I have as almost an objective observer is what is the need for all the language? We just said what the distribution is going to be; three-quarters of a percent.

You take the total amount; somebody already calculated it, what each state should have. You divide that up, and that's what the state's quota is and you're done. There doesn't seem to be a need for a state to determine now or at the beginning of the year whether they're going to be in or out of the fishery.

If they decide, if two or three states decide to hold their quota for whatever reason, maybe because the environmental activist and encouragers and the recreational fishermen say to that state, we really don't want you to catch that full quota. We know it's available; but we would like to meet with you, and we think maybe you should only take 50 percent of the quota that's due you, because it's affecting our local waters.

That option would exist if you don't have all this language. This seems to me that it's almost like a states' rights issue that the states now are going to give up their authority to make a decision how they want to spend their marbles. We were all given 200,000 marbles or 212,000 marbles; metric tons are marbles yesterday. Today we're given 216,000 metric tons of marbles. New Hampshire might decide to keep

all their marbles; or they might decide to give some of their marbles away. That should be their right that I don't think should be predetermined at the beginning. Let the state's decide how they want to spend their marbles.

CHAIRMAN BALLOU: Robert Boyles.

MR. BOYLES: I'm struggling with this. You know we've just made, if this amendment passes, if the whole amendment passes, we have just allocated 3.5 million pounds. You all have given me 3.5 million pounds, the Palmetto state 3.5 million pounds of menhaden that we don't have those fisheries developed. I think that is clearly a policy call.

That is a motion that passed; and if the amendment passes that will be our operating stance. I appreciate the intent of the motion, you know as one of the states with really not a dog in this fight. I appreciate the intent of the motion to perhaps soften the blow or to ease the impact of the entire amendment, whatever we pass here today.

At the same time, I struggle with the whole idea. I should have prefaced this at the beginning. It is my full intent that we will have biological/ecological reference points; which will first determine how many fish we're going to leave in the water. This is I think I've described to a number of you, at its essence an allocation amendment.

The first order question is how much to leave in the water. I think we've committed to that through our actions yesterday and today and through the intent of the amendment. Once we've determined what that level of ecosystem services is, then the real question is how are we going to split this portion of the pie that we take out of the oven to eat?

I struggle. You know South Carolina just has no capacity for 3.5 million pounds of menhaden at three-quarters of a percent. I'm certainly willing to play ball for the good of the cause in

implementing this policy of managing these species for ecological services; as well as supporting a bait and a reduction fishery.

But I struggle with this. I don't know that the Commission, I would look to staff, is this precedent setting, in terms of giving a state a share of the pie that we have absolutely no intention of using? That is another policy call that I'm just struggling with. I've enjoyed the conversation. Let me rephrase that. I'm learning a lot through the conversation; and will continue to grapple with it.

CHAIRMAN BALLOU: I do know you asked a question. We'll see if we can get a staff response to that. But I'll next go to Ritchie White.

MR.WHITE: I support this and I'll give you the example of how this will affect New Hampshire; and how I see this working. Presently we have negligible landings. We also have a large purse seine vessel that lands millions of pounds of herring in New Hampshire annually. This year they talked about landing mixed loads of herring and menhaden.

It didn't happen this year. They also talked about additional availability of menhaden showing up; and they may want to land total loads of menhaden, and they come in at 400,000 pounds a trip. This would allow us to, we would opt in, and I'm just guessing, maybe a million and a half pounds. Put the balance right out of the gate into the pool; and see how it went for a few years. Maybe we would opt out of all of it in the future; if that vessel stopped landing in New Hampshire. But this gives the flexibility of us not being in a position where we would have to lock a fishery out; having no quota that we presently have. I think that is a fairness issue.

I also support this; because I think this is the compromise originally in the 216,000 metric tons that I was talking about. This gives each state a chance at a fishery; and this fishery is

changing, so we need some ability for states that haven't been fishing in recent times to have a chance to fish now. But it also puts back into the pool the fish that aren't used.

That gives the ability to try to make some state whole that may not be whole; with the use of the three-quarters of a percent going to the new states. I think that is the compromise; this balances it. I understand the angst of Pennsylvania. New Hampshire doesn't use their small, commercial striped bass quota either.

But I think looking at this in its entirety; and thinking about it in a compromised situation, and how without doing it this way maybe the 220,000 metric tons was a fairer target. That was my thinking in this whole process; starting with the 216. I hope the states will consider that approach to this and support it.

CHAIRMAN BALLOU: Toni Kerns, could you take a crack at answering Robert Boyles' question; which as I understood it was whether there is any precedent for an approach like this with regard to any other FMP that involves state-by-state allocation? Robert is involved in a sidebar right now; so hold on that Toni. I'll come back to you; because I want to make sure Robert's focused. Adam Nowalsky, you're next.

MR. NOWALSKY: I see this motion as having two relevant parts that we're discussing; one is the element of opting out, and being able to redistribute that to states that may need or want it. The second element of this is this opt-in provision which forces states, in my opinion, to demonstrate the intent to use their quota and if not, a sense that it would be taken from them without their consent.

That gives me trouble; and I hear that concern from some other members around the Board here as well, both in terms of how it might impact other species, precedent setting et cetera. I'm going to make a motion to substitute, Mr. Chairman. I believe it's going to include a number of these terms, so maybe

staff just wants to start with cut and pasting. I'll go along here with it.

My motion to substitute is: at the start of each fishing year and no later than January 31st, states may declare if they want to opt-out of the fixed minimum program. States, do you want me to just read the whole thing or just let staff go along with me and read as it comes up on the board?

MS. KERNS: Adam, do you have it on a piece of paper or no?

MR. NOWALSKY: I can come up there and give it to you if you would like.

MS. KERNS: You can read it into the record; and then if you could just come up and help us get it up on the screen appropriately.

MR. NOWALSKY: That would be fine. At the start of each fishing year and no later than January 31st, states may declare if they want to opt out of the fixed minimum program. States may declare if they have the option, and decline their fixed minimum allocation or maintain 10,000 pounds for bycatch purposes, and to decline the remainder of the quota.

If a jurisdiction declines its full allocation, it must identify the amount they do not wish to receive. Any quota that is not received by a state is redistributed to the other jurisdictions based on historic landings from the time period selected. Essentially what I'm doing is removing the requirements for opting in; and focusing on opt out entirely.

CHAIRMAN BALLOU: Let's do this. The Board will be at ease for five minutes as we get that motion up on the board.

MR. NOWALSKY: I think a lot of people want to take the break; but it's pretty darn close with what's up there.

CHAIRMAN BALLOU: We'll take a five minute break; just to get this motion up, and then we'll pick up right where we left off, starting with is there a second to the motion.

(Whereupon a recess was taken.)

CHAIRMAN BALLOU: I would like to resume; and I would like to go back to Adam to first ensure that the motion he has up is accurate, in terms of what he intends. Then I am going to see if there is a second. Then I'm going to allow Adam to speak to it, and then I'm going to allow. I'm sorry; I'm getting ahead of myself. Let's just stop right there. Adam, is this the motion you would like to make with regard to the wording that's up on the board right now?

MR. NOWALSKY: With a nod of great thanks to staff, yes it is. Would you like me to reread it at this point?

CHAIRMAN BALLOU: Please do.

**MR. NOWALSKY: Move to substitute that "at the start of each fishing year and no later than January 31st, states may declare if they want to opt out of the fixed-minimum program. States may declare to opt out of the program and decline their fixed-minimum allocation, or maintain 10,000 pounds for bycatch purposes and decline the remainder of their quota.**

**If a jurisdiction declines its full allocation, it must specifically identify the amount they do not wish to receive. Any quota that is not received by a state is redistributed to the other jurisdictions; based on historic landings from the time period selected by the Board in this Amendment."**

CHAIRMAN BALLOU: Is there a second to that motion? Dr. Duval seconds the motion; so the motion has been made and seconded, and Adam I'll go to you first to have you speak to it. Then I have some thoughts about some public input on this.



MR. NOWALSKY: First let me identify what is different about this with regards to what already exists in the draft amendment; the specific language with Option C. This includes more specificity in two areas. One, it provides the specificity of the date by which this declaration needs to occur; and two, it provides the specificity of what would happen to that quota that is not utilized by individual states. The draft amendment is silent on what occurs right now. This specifically lays that out through the last sentence.

This issue of fixed minimum is a bit of a difficult one; because essentially what we're doing is taking fish that states have had historical allocations of, historical use, and saying we're making a unilateral decision to hand it out, essentially. That is a tough pill. If it is the intent of the Board; as the original motion did, to force states to prove that they can use those fish.

Then I would say that that whole fixed-minimum approach is flawed, and that we as a Board should go back and reconsider it. But if that is in fact the decision that we're making that we're going to go down that road; then to go ahead and put the requirement on those states to say and oh by the way. Even though we decided to give it to you, if you can't show we're going to use it we're going to take it back; that is even more flawed, and I can't support that. That is my justification for this motion to substitute.

CHAIRMAN BALLOU: Because both this substitute motion and the main motion, which addressed the issue of we'll call it opt-in versus opt-out lend a lot of specificity with regard to the provision that was only set forth in the amendment in general terms. I'm going to allow some public input on this.

But it really needs to be specific to the issue before the Board right now on opt-in versus opt-out. Is there anyone from the public who would like to address the Board on either the main or substitute motion? I see two hands;

and I'll go first to the gentleman approaching the microphone. Thank you. Could you please introduce yourself?

MR. MONTY DEIHL: Thank you, Mr. Chairman, Monty Diehl from Omega Protein. If my math is correct, did it on my phone in the back. I just witnessed the Board vote for about an 8 percent increase in the overall TAC because of the health of the stock and how well it's doing; and in fact some argued that it could have been raised much more.

But based on this motion, again we could probably ask staff for clarification. It essentially means about an 8 to 10 percent reduction for Virginia; in Virginia's harvest from this year. For me that's laying off a lot of people from work. It even means now I have assets that I no longer need. Should I go to a state who I've heard around the table saying they want to grow an industry, they want to build an industry?

Do I now need to go and try to sell vessels, sell equipment, and even maybe barter labor to those states to grow something on the backs of people who have been doing this, like mine, for five generations? I can't even believe what I hear; I honestly can't. It also completely changes the mix, the supply and demand mix.

I'm not in the bait market. But it completely changes the supply and demand mix for bait; because you're now taking fish that had been used for reduction and not on the bait market, and you're moving millions and millions of pounds of those into the bait market, and you have industries, bait industries who have built again for many, many generations to build up a business. Now they're going to compete in a flooded bait market. I don't know if that's even being considered here. But I just wanted to point that out. From a Virginia standpoint, from a taxpayer in Virginia standpoint, and from a very large employer who represents an awful lot of people, this is not going in a very good direction. Thank you, Mr. Chairman.

CHAIRMAN BALLOU: Thank you, is there anyone else who would like to address the Board? Yes, sir.

MR. JEFF REICHLE: Thank you, Mr. Chairman, Jeff Reichle from Lunds Fisheries. Yes, I would like to echo a lot of what Monty just said; and just say that what I've seen happen today has totally destroyed what I understand fishery management to be. For the most part, fisheries have always been managed and allocated based on history and recency; and that was completely thrown out the window today.

You know there are a couple states that have history; recent history and history going way back. What you've basically done today is done a total reallocation to other states. If that stands, then I do not agree with this amendment. I think I agree with the original motion, so that we have the opportunity to get some of the quota that has been taken from us for no good reason back. Thank you.

CHAIRMAN BALLOU: Yes sir, in the back. If there is anyone else would like to speak, please come forward and be ready to take the microphone. I don't see any other hands up; but I just want to move on after this. Thank you.

MR. JIMMY KELLUM: Jimmy Kellum; from Virginia. My company is Kellum Maritime; we fish for bait and for reduction, and sell to Omega. I appreciate what Adam is trying to do here; but this doesn't fix the fact that we just transferred 301,000 bushels from reduction to bait. Do you have any idea what that is going to do to the bait industry?

The bait industry will collapse; based on what we've done in the last hour. This doesn't fix what we've done. We need to go backwards and say, we made a serious mistake here, because we have made a mistake. We have pillaged New Jersey and Virginia; on the theory that some other states may establish a bait business. I'm on the AP Committee, and they'll

tell you I was all in favor of the four states getting more quota, but not to this degree. We need to rethink this. Thank you.

CHAIRMAN BALLOU: Thank you very much for those comments; one last comment, thank you.

MR. A. J. ERSKINE: My name is A.J. Erskine; I'm with Mid-Atlantic Bait in Virginia. I agree with the previous comments. I disagree with this amendment. I think we did make a mistake with the fixed minimum. We are talking about economically changing the bait market drastically; so we're opposed.

CHAIRMAN BALLOU: Thank you, so now I would like to go back to the Board for comments on this motion to substitute. I had four names that were already in queue; and I'm just going to go right through those to see if they would like to speak on the substitute motion, starting with Cheri Patterson.

MS. PATTERSON: Ritchie covered what I was going to say, thank you.

CHAIRMAN BALLOU: Colleen Giannini.

MS. GIANNINI: I was looking for just some confirmation on Pat's original motion; that a state's decision to opt in and then subsequent declaration for the amount of quota it would like in that year, wouldn't be affected in subsequent years.

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: Correct, it would be an annual decision by the state.

MS. GIANNINI: Okay, and then just a quick follow up, I guess just a comment in this. I think that this motion here that Adam has up, I think it could be maybe a lot simpler, and I don't know if it would work better just to simply end that states may declare to opt out of the program and decline their fixed minimum

allocation, and not necessarily have to have a 10,000 pound for bycatch purpose in there.

CHAIRMAN BALLOU: Duly noted. Next I have Rob O'Reilly.

MR. O'REILLY: Certainly the speakers from the public, I certainly echo what they have to say from Virginia. I do think that there was a mistake earlier on; and you know it's too late in one way. The 220,000 metric tons would have solved some of these problems, and we could have gotten away from the fixed minimum that I've talked about a couple of times, as to what the ramifications and repercussions will be from that.

I don't really think that making a situation like this more palatable is something that we should avoid. I think we should try and do that. I've been hearing making certain states whole; although, and I don't take any offense at all. I did hear Ritchie White say, but maybe we don't have to make them whole.

But clearly, we need to be a little more careful about what we're doing. I see what's up on the board, and no disrespect to Pat or to Adam, I see it as a contrivance. I see it as an outfall of having not thought through some of the decisions that we made. I can't support it; and I regret that we didn't make some earlier decisions that maybe wouldn't get us in this place.

If I look across the table at New Jersey, I see their workforce diminishing; if I think of Virginia, our workforce diminishing. I mean how many things can we add on to our lives in the states that we have to monitor and keep sacred; when we don't need to start doing that and we shouldn't have started doing this on this situation. It was fixable earlier on.

CHAIRMAN BALLOU: Nichola Meserve.

MS. MESERVE: I prefer the initial motion to this substitute. The purpose of the reallocation

option that we selected was to meet the needs of more states for their commercial fisheries; and allocating 3.5 million pounds to a state without a fishery runs counter to that objective. For consistency purposes, I think we need to look at that objective when it comes to this motion as well. ASMFC does have a long-held practice; I guess I would call it, of allowing states to be more conservative than the requirements. But I don't think that that has normally come at the disadvantage to other states, and that is what the initial motion was trying to address in some part. I don't support the substitute.

CHAIRMAN BALLOU: Toni Kerns, did you have something you wanted to add?

MS. KERNS: Just for clarification. The first two sentences are sort of in opposition of each other here in the motion; because the first one says you can declare to opt out and decline all of your allocation or maintain just the 10,000 pounds. But then the second sentence says if a jurisdiction declines its full amount it must specify the amount that they don't wish to receive.

I think if a state wanted to keep part of the allocation, you could just say states may declare to opt out of the program and decline all or part of their fixed minimum, instead of restricting it to just being able to keep 10,000 pounds. Does that make sense, Adam? Do you see where I'm thinking the two sentences may go against each other?

CHAIRMAN BALLOU: I do believe I see your point. Adam, do you want to speak to that?

MR. NOWALSKY: Your suggestion would be to remove the "or maintain 10,000 pounds through the period?"

MS. KERNS: Yes, if that is the intention yes; but also say decline all or part of your fixed minimum, so it allows the state to determine what is being declined. If they want to keep

half, then they can still keep half. If that is what your intention was here.

MR. NOWALSKY: My intention is definitely to allow states to choose the portion they wish to decline; so I'll leave it up to the discretion of staff and the Chair whether having that information on the record is sufficient, or if they have word smithing they would like to offer.

CHAIRMAN BALLOU: I believe staff is undertaking word smithing. Let's see if we can get it to a point that would comport with your intent, Adam.

MR. NOWALSKY: I have no objection to how it's being modified pending the final result.

CHAIRMAN BALLOU: Let's read back into the record where this motion now stands as amended. Move to substitute that at the start of each fishing year and no later than January 31st; states may declare if they want to opt-out of the fixed minimum program. States may declare to opt-out of the program and decline all or part of their fixed minimum allocation.

If a jurisdiction declines part of their allocation it must specifically identify the amount they do not wish to receive. Any quota that is not received by a state is redistributed to the other jurisdictions based on historic landings from the time-period selected by the Board in this Amendment. Adam, does that meet with your intent?

MR. NOWALSKY: Yes, thank you.

CHAIRMAN BALLOU: Is there any objection from the Board to modifying the motion as now written? Seeing no objection that change has been accepted and the motion stands as it does; further discussion on the motion, Doug Brady.

MR. BRADY: I'm trying to get my arms around this motion versus the prior motion; and I guess I'll direct the question to maybe Robert Boyles

in the case of maybe South Carolina. The language in the prior motion dealing with the intent and the ability to demonstrate that you can harvest your quota that's allocated, if that one passed South Carolina has no, I mean there are states that have nothing in the regulations that allow them to do that. Obviously they could pass things.

Would by default South Carolina automatically give up their quota; because they don't have anything in place to show intent or ability to harvest? Under this motion, all the states can for whatever reasons just say we're not going to opt out; we're just not going to opt out, and therefore we'll keep out quota to do whatever we want to with it.

Under the prior motion, some states that don't have a fishery at the present, by default would not get their quota. Do you understand what I'm trying to? I think from what was said at the public comment, the concern may be that under this provision it's just so easy to take quota that is not going to be utilized, or negotiated in other ways.

But it penalizes potentially severely the states that are getting less of a quota by what we're doing by the 75 or the three-quarter percent. But Robert, I would just ask you that. Did you read the first motion to say by default that if that one passed that South Carolina would not get any quota? Do you follow my question?

CHAIRMAN BALLOU: Robert, it's your call as to whether you feel like you want to respond to that or not.

MR. BOYLES: I think what our particular situation is, to answer Doug's question, is the gear that would process menhaden is unlawful in South Carolina, outlawed by the Legislature years ago, nothing to say that a processor couldn't fish federal waters, if the fish were there. For instance, we don't have the processing capacity necessarily. Not to say that it couldn't develop. Doug, I'm not sure if that

answers your question; but that is kind of where we are in South Carolina.

CHAIRMAN BALLOU: Let's leave that one there for now and circle back if need be. Loren Lustig.

MR. LUSTIG: I will be brief. With my new found skills for word smithing, I would like to thank Ritchie White for reminding us of the benefits of compromise. If we dig in our heels there is going to be plenty of blood on the floor all around the table. I'm in favor of compromise. The gentleman who just spoke from Lund Fisheries reminded us of the importance of history. I was a history major in college. I understand history. If I was to choose a historic date to hearken back to, it would be the famous voyage of Captain John Smith in the Chesapeake. All right that is the date I would like to use as a baseline.

CHAIRMAN BALLOU: Senator Miner.

SENATOR MINER: The word "may" says to me that we may not need any of this language at all; either in the original motion, which would be 18 or 19. What this does in my view is changes an allocation from currency, which it is under the original what's been passed so far, 216,000 metric tons to a non-currency, because it automatically goes back to the Board for reallocation.

From a state's rights perspective, it seems to me that I would want Connecticut to have this allocation as a currency. It may very well be that we could choose to transfer it. But my read of this is that by making the declaration to opt out of the program, we devalue that currency. It automatically goes back into the pool.

I don't know what state would actually do that; and therefore that goes to my question of why do we even need either one of these? I understand the original intent of the original motion; which was try to set that base number as low as possible, and create a feeling that for

those states that were harmed in this redistribution process, there was some mechanism to get it back.

But I would suggest that the state of Connecticut could still enter into an agreement with the state of Virginia or the state of New Jersey to redistribute our allocation in the form of currency back to one of those states, should we choose to do it, without either of these motions. I'm probably inclined not to support either one of them.

CHAIRMAN BALLOU: I think it is a very good time to remind the Board that the amendment right now has a specific provision addressing this issue; which would be changed by either of these motions. Let's just say for the sake of discussion, neither of these motions passed. The default would be the following.

Should a jurisdiction desire to forego the fixed-minimum quota it has been allocated, it may on an annual basis choose to decline its quota completely, or maintain 10,000 pounds for bycatch purposes, and decline the remainder of the quota. Quota which is relinquished by the states will be redistributed to the other jurisdictions.

Should a state choose to relinquish its annual quota, the Commission must be notified through the Annual Compliance Report process. I just want to make it clear that that is what the amendment currently says with regard to the allocation method that's already been adopted. These motions seek to tweak that, change that, and modify it. Eric Reid.

MR. REID: I just want some clarification. Mr. Keliher's original motion had two other portions in it. Are those two other portions still in play in this?

CHAIRMAN BALLOU: I'm going to have Megan answer it.

MS. WARE: I don't believe so. But I would look to the maker of the motion to clarify that.

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: Because this is a motion to substitute, I don't believe that would be the case. I think this would completely replace my motion.

CHAIRMAN BALLOU: We have that now on the record. David Borden.

MR. BORDEN: I would just like to go back to the point that you made about the language in the document; and just remind everybody of what Ritchie White pointed out, and I thought it was a good example of how the mechanism would work. If the state of New Hampshire has a herring fishery that's taking place, and they need for the sake of argument 400,000 pounds of menhaden, in order to eliminate the bycatch and regulatory discards.

They would have the option of selecting 400,000 pounds. I don't think the state of New Hampshire wants to have a directed fishery. I don't think it may necessarily, and this is my read, but they would like the opportunity to select a number above 10,000 pounds so that they could eliminate bycatch. I just remind everybody of that. This system doesn't work very well when we promote regulatory discards. But I think there is a lot of merit in what Ritchie said before.

CHAIRMAN BALLOU: Any further discussion on the motion to substitute; David Bush and then Dr. Duval?

MR. BUSH: I'm glad you let me go first; because I can never follow her. She's a tough act, right? I'm still wading through this and there are a lot of different things that could happen from this. Now in my mind, and it may be different for some folks, but we've achieved our conservatory effect by the overall TAC that we put into place.

What the original motion in my mind would do, although the dates is something that I would question, would be to make states actively pursue their catch, and if they are not going to or can't demonstrate that they can, then that puts it back into play for everybody else. That doesn't mean that say North Carolina is going to come up the Potomac River and start fishing for menhaden.

But the overall quota itself has already accounted for the conservatory hopes that we want to achieve here. Again, I'm sort of trying to walk my way through this. In my mind I would think that maybe the first motion would be something to maybe take a little bit of the sting out of the initial cut that we already had. Again, I'm sure I'll learn more before we get done here.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: I seconded the motion for purposes of discussion. I think it's been very robust; and I really appreciate the public comment, and I appreciate what Adam was trying to do, in terms of I guess providing some assurance to states. But I also hear that the previous motion would actually provide more assurance of making certain that the quota that is available is available to those areas that actually need it. I appreciate what Adam was going to try to do, but I think I'm actually not going to support the substitute motion based on the public comments.

CHAIRMAN BALLOU: I echo the comment just made that we've had a robust discussion; and I'm going to take that as a queue to call the question. With that 30 second caucus and then we'll vote on the motion to substitute. Okay, I'm going to call the question. All in favor of the motion to substitute please raise your hand.

**Hands down, all opposed please raise your hand; thank you, any null votes, any abstention? There are two. The motion fails 2 to 14 with two abstentions.** We're back to the

main motion and after Max catches up, we'll put that back up on the board. Is there any further discussion on this main motion? John Clark.

MR. CLARK: I'm sorry to keep coming back, but the intent of this is to put it on the states that this fixed minimum is much more than most states will use. A state would have to actually state early in the year that they are going to use what they get; and if not, it automatically goes back into the pool to be redistributed.

Obviously from the concerns that were brought up by the public, this would have to be done in a very timely manner. Do we need to have more details in this motion, or do we need to further specify how we are going to reallocate unused, fixed minimum quota from these states?

CHAIRMAN BALLOU: I think the motion is quite detailed and quite clear on that; but I'll look to other Board members to see if they feel a need for additional clarity. David Borden.

MR. BORDEN: To John's question. My read is slightly different here, and I think it's pretty explicit in the motion. If Delaware didn't need their full allocation, they could request any amount up to the full allocation. But that is up to the state of Delaware.

MR. CLARK: I get that Dave. I'm just saying, the fact is I could for whatever reason say I want the full 0.75 percent of the quota, and not get anywhere near that. Then it doesn't get reallocated; to me that is a real problem. Because we have enough quota that is being taken from Virginia and New Jersey; that if enough states did what I just said that reallocation wouldn't happen in a timely enough manner to help those fisheries catch. As with many states, we're dependent on those states to provide bait for our crab fishery and for other fisheries. This is a big question is how this is going to work.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: I think to John's point. You know the motion that we passed previously included the transfer provision. I think I would look to that to ensure that quota is available to be used. I mean I know that North Carolina this past year was approached by several states earlier, actually pretty early in the year to see if we might be able to transfer some of our quota to them, to alleviate the issue of an abundance of menhaden that they were encountering off their waters. I would hope that that transfer provision would be utilized in that situation.

MR. CLARK: Well transfers are voluntary. All I'm saying is I'm just giving a worse-case scenario here is that a state could take the minimum, not transfer it, and we would have problems in the fishery. That is the only reason I wanted to see more specific language.

CHAIRMAN BALLOU: Good exchange; any further discussion on the motion? Seeing none; is the Board ready. Does the Board need time to caucus? David Borden, one minute caucus. Yes, one minute caucus and then we'll vote on this main motion. Okay, is the Board ready for the question? I see some caucusing still going on. Now it looks like it is ending.

Okay, all in favor of the motion please raise your hand; thank you. Those opposed please raise your hand; thank you, null votes, abstentions, two. Robert.

MR. BOYLES: Mr. Chairman, a motion to recess please.

CHAIRMAN BALLOU: First we need to clarify the vote; because I think we may have missed one, so I am going to ask for a recount, because I think our math came our wrong here, so let's make sure we get this right. **Those in favor of the motion please raise your hand and keep them up; thank you. Those opposed please raise your hand; thank you. The motion fails 7 to 9 with two abstentions.** The request to

recess could be coupled with a lunch break. Are we at that point, Robert, or were you looking for something shorter term?

MR. BOYLES: That was my intent, yes sir.

CHAIRMAN BALLOU: Let's break for lunch, and Toni, what time do we want to reconvene, or Bob?

MS. KERNS: Let's reconvene at 1:00 p.m. please.

CHAIRMAN BALLOU: We will reconvene at 1:00 p.m.; enjoy your lunch, thank you.

(Whereupon a recess was taken.)

**PROCEEDINGS OF THE FIRST FEW MINUTES OF THE BOARD RECONVENING ARE UNAVAILABLE. IT IS CLEAR FROM THE MOTIONS THAT MR. BOYLES MADE THE FOLLOWING MOTION WHICH WAS SECONDED BY MR. MILLER.**

**Move to reconsider the allocation method.**

MR. BORDEN: I would just ask Robert if he could provide us with a little bit of insight on where he wants to go with this.

CHAIRMAN BALLOU: Well, I think that's the second part. First is whether the Board feels comfortable bringing this motion back before the Board. Then I think Robert will have the opportunity to speak of how he may wish to subject it to reconsideration. I believe it's a two-part process, but I look to the Board for input on that. I see two hands. Adam Nowalsky.

MR. NOWALSKY: I believe because the original motion also included the two bullet points, and they were packaged together. I don't think we can just reconsider part of it. I understand that's the element we're looking to change. But I think we would be looking to reconsider that entirety of the motion.

Then once that's on the floor again, we would decide what else we were going to do. But I believe that's what we would be looking at; including the rollover and transfer provision we would be reconsidering as part of one reconsideration.

CHAIRMAN BALLOU: I totally concur with that. It would be the full motion back before the Board; which can then be addressed in however way the Board would like to. Is there any further discussion on the motion to reconsider? Emerson Hasbrouck.

MR. HASBROUCK: We had quite an extensive debate and discussion around that issue this morning; that went on for an extended period of time. I don't know why we need to revisit it; but maybe that will come out in the debate about, if it is brought back to the floor. I'm just concerned. We had a significant discussion this morning. I think we beat it to death pretty well.

CHAIRMAN BALLOU: Understood. Ray Kane.

MR. KANE: To reconsider, are we going to need two-thirds? No.

CHAIRMAN BALLOU: Majority vote. Is there any further discussion on the motion; Dennis Abbott?

MR. ABBOTT: Going along with what Emerson said. Surely we had plenty of discussion; and we reached some decisions. Like anything else, I think that when you do something and it advantages someone, there is probably someone else that is going to be disadvantaged. Apparently, not apparently that is what the feeling is with a number of people here.

Well at some point we have to make decisions and live by them. It just seems unseemly to have made a decision an hour and a half ago, and already we can't live with it. With due respect to Mr. Boyles, who I know is trying to do the right thing as Robert does a lot, he tries to make sure that everybody leaves the table



happy. Again, it's not going to happen. There is always displeasure with our decisions. We surely spent enough time this morning making a tough decision. I think that we should not reconsider and move along with our agenda.

CHAIRMAN BALLOU: Dave Bush.

MR. BUSH: Very briefly. I sat here while I watched quite a bit of folks skip lunch; folks that were on both the winning and losing sides working towards the middle, which I believe was the ultimate goal, not necessarily just the process for the sake of the process but an outcome we can all live with. I would certainly be in favor of hearing further discussion, if we can make this something that works for everyone.

CHAIRMAN BALLOU: Any further discussion on the motion to reconsider? Loren Lustig.

MR. LUSTIG: Just before you reconvened the meeting, I was speaking to my wife, Louise, and she said well when is the meeting supposed to be over? I said Louise, it's supposed to be over at 6:00 p.m. but it would not surprise me, since we're talking about the bottom line that I might be here until 9:00 or whenever. I agree with what I've heard around the table here. Sometimes long discussions sort of just overwhelm me. This is too important to sort of give it short shrift.

CHAIRMAN BALLOU: Any further discussion on the motion. Seeing none; is the Board ready for the question? Is there any need to caucus; a 30 second caucus? Okay, I'm going to call the question. **All in favor of the move to reconsider the allocation method please raise your hand, thank you. Those opposed please raise your hand, thank you. Are there any null votes, any abstentions? The motion passes 11 to 7; which means the motion is now back before the Board for consideration.** Robert Boyles.

MR. BOYLES: Thank you, good discussion and I agree; we'll try not to belabor this. My quote from Dr. Franklin, please, "For having lived long, I have experienced many instances of being obliged by better information or fuller consideration, to change opinions even on important subjects, which I once thought right but found to be otherwise. It is therefore that the older I grow, the more apt I am to doubt my own judgment, and to pay more respect to the judgment of others." Having said that Mr. Chairman, I'm reminded that being a guy from South Carolina; we know something about state's rights. We know something about public trust resource management; and it is very much my intention that we have a durable outcome as a result of our deliberations here today, and as we move forward with the implementation of the Amendment.

Let me be blunt. I think it's important that we all have something that we can live with; that we can go home with and say we've done our level best to be good stewards of our resources, good stewards of the trust that is given to us by our constituents, and in fact good stewards of the authority under which we are operating.

I'm concerned with my seatmate here Dr. Rhodes' comment referencing the Hippocratic Oath earlier that we might have jumped a little too quickly earlier today. Clearly there are allocations; very, very difficult issues associated with allocation. I have a new motion I would like to make that is up on the board.

If the Board will indulge me in it I will read it; and I think you will find that this is – fairness and equity are in the eye of the beholder – I think it's important that we do our level best to bring everyone along that we don't lose sight of the prize here. I think, Mr. Chairman, when I was sitting in your seat I suggested to the Board that this was a great big allocation amendment.

The first order question is how much do we leave in the water. I spoke to that issue yesterday. I won't revisit that in terms of

reference points. But I think it's important for the good of the cause. I think it's important for the commitment that the states made in 1942, when we were a little distracted with global events that there is more to be gained by cooperating and remaining committed to one another than by going it alone.

It is within that spirit that I offer this motion. **I would move to select Allocation Method Option C, a jurisdictional allocation with a fixed minimum with a 0.5 percent fixed minimum and the allocation timeframe 2009-2011. I would also move that we include incidental catch and small-scale fisheries Option B, modified to include purse seine smaller than 150 fathoms long by 8 fathom deep would be considered small scale gear, and episodic events Option A, with the 1 percent set aside. If I get a second, I'll explain further.**

CHAIRMAN BALLOU: Is there a second to the motion; seconded by Dave Bush? Moved and seconded to move this sort of three-part motion. Before I go to the Board for questions, Robert I would ask you. With regard to the motion that this is intended to replace, the motion that it would replace addressed transfers and rollovers, I believe. What is your intent with regard to those issues with this new motion?

MR. BOYLES: With the intent of transfers. My intent quite frankly, Mr. Chairman, as a state with no landings history, with no fishery that we would be prepared to contribute our share to be able to transfer that perhaps to the episodic events set aside, to bump up that number, to take into account the interest of those brethren along the northern coast. Also that would be available for transfer to other jurisdictions that may have overages.

CHAIRMAN BALLOU: If I might; just to make it clear. Is your intent to modify at all the prior decision made by the Board; with regard to allowing for transfers but not allowing for

rollover? I believe those were the two key aspects of the prior motion.

MR. BOYLES: Yes sir, Mr. Chairman. Thank you for clarifying that. That is my intent.

CHAIRMAN BALLOU: I guess we might want to think about whether we need to wrap those into this motion or not. I'll just sort of leave that hanging for a moment; to make sure that we've got the full mix before us. If this is to substitute in full, it looks like staff is already doing that as I speak, so how about that.

I think what Max has just done, if I'm not mistaken, I'm doing this on the fly here is added back in the two provisions from the original motion addressing transfers and rollovers. This sort of augments this motion now by incorporating those in. Robert is this consistent with your intent.

MR. BOYLES: Yes sir, Mr. Chairman. I would give a shout out to staff over lunch. They did provide a table that reflects what the current allocation is on the far right hand side of the page; and what is contemplated in this motion is in the far left hand column with the 2009-2011 TAC. I believe that has been distributed. I believe.

CHAIRMAN BALLOU: I believe you're right; and with that I will open the floor to questions or comments on the motion, starting with Adam Nowalsky.

MR. NOWALSKY: I appreciate the comment about a willingness to redistribute some of that unused quota. We had the conversation earlier this morning about the language that is currently in the Draft Amendment not being explicit in how that redistribution would occur. With this motion, how do you propose to move forward with that redistribution? How would it actually occur?

CHAIRMAN BALLOU: I think staff is prepared to address it; unless Robert, you want to jump in. All right, Megan.

MS. WARE: There are kind of two ways we could do that. We could do a separate motion to provide clarity on that; and maybe use some of the language from your motion before, if you would like to do that or if you would like to make an amendment or a friendly amendment, I would ask Robert Boyles to add in that sentence that said it is redistributed based on the timeframe selected by the Board. Then that's up to you guys.

CHAIRMAN BALLOU: As Adam mulls over that and other Board members as well, I'll go to Andy Shiels.

MR. SHIELS: This may surprise everybody, including myself in the room. But I support this motion. The reason I do is because I was under the understanding, mistakenly on my part that when we were talking about this earlier today. At the three-quarter percent fixed minimum that the states that did not have quota were getting quota, and Maryland and Virginia were unchanged. I was incorrect. When I found out that it was a half percent that's what I intended, sitting around the table.

I did not want to bring harm to Virginia or North Carolina, when the most important thing was a very modest increase of the total allowable catch.

Within that modest increase, the other states get an opportunity to fish. We argued back and forth whether Pennsylvania does or South Carolina will or will not prosecute that.

But I did not feel good about that as we left the room. I'm glad that somebody else brought it up. I do not prefer an alternative approach where we raise the TAC to provide this room. I think this is the right approach. I think Maryland and Virginia roughly stay the same. The other states get the benefit, a fishery that

they didn't have in the recent past, and so I support this motion.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: Thank you, Robert for bringing this forward, and I know several of you have been diligently trying to think of a little improvement. Sometimes when we do get involved in something that has so many layers, it is difficult to keep everything in mind. Andy, I think you're right. I think that it was quite a difference earlier with the way things were with the 0.75 fixed minimum compared to this, which is like about a 0.5 percent increase for Virginia.

I still don't know how all of this settles out. I mean you've heard this before, but the agency I work for really has very little to do with management of menhaden. It's the General Assembly that manages menhaden; and Senator Richard Stuart, who is a member of this Commission, and is also an attorney, sent a letter to the Commission and he really was somewhat critical, but on the fixed minimum especially.

He really questioned that if it was not illegal it certainly was inequitable and unjust, where there could possibly be horse trading of quotas. I think we've addressed that a lot before lunch; and wanting a method that that cannot happen. This is a big improvement. I do appreciate it; and so thank you for the time.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: Yes, I am supportive of what Robert is trying to do and reconsider, and do no harm here, and try to find the most equitable approach for everyone sitting around the table. I guess the concern that I have is with the Section 4.3.5 Option B, the incidental catch and small scale fisheries. Those harvests would not be counted towards the TAC under that option. Is that the intent?

CHAIRMAN BALLOU: I was having a sidebar, I'm sorry. If you could restate the question or maybe if somebody is ready to answer it. I missed it, I'm sorry.

DR. DUVAL: The motion on the board under Section 4.3.5, Incidental Catch and Small Scale Fisheries, Option B; under that option incidental catch does not count towards the TAC. I just wanted it clarified if that was the intent, to not have that catch count against the TAC.

MS. WARE: It is correct that that option does not count incidental catch towards the TAC.

CHAIRMAN BALLOU: Thank you, and my apologies for not following along. Additional comments on the motion. Emerson Hasbrouck.

MR. HASBROUCK: I'm a little confused here; in terms of proceeding under episodic events. I thought I heard the maker of the motion say something about discussing episodic events under that separate category. Is that not true, or does this motion take care of whatever we need to do under episodic events?

CHAIRMAN BALLOU: Well, I'll certainly let the speaker address that issue; but my take is this is addressing episodic events. I see the maker nodding in the affirmative; so that is the intent of the motion, to address episodic events among other things, additional discussion, Russ Allen.

MR. ALLEN: I'm not totally enthralled with this motion; but I see that there is a lot of work behind it to get it to where it needs to be. I'm having a hard time supporting it; but I'm as Rob said, real pleased that we're all working together on this to try to make it work for everyone. We already made half our constituents ticked off when we were doing certain things on this; and this will probably tick off the rest of them. I think this may end up being a best way forward; because I don't have a solution after this.

CHAIRMAN BALLOU: Yes, John Clark.

MR. CLARK: I'm just a little concerned about the allocation method here again. Once again we're allocating a large amount of quota to states that have not fished it, will not fish it. It just seems very inefficient. I think there has got to be better ways; and I thought I heard some discussed earlier that we could use, rather than going with this fixed minimum.

CHAIRMAN BALLOU: Nichola Meserve.

MS. MESERVE: I have the same concern as Dr. Duval with the Option B for the incidental catch and small scale fisheries; and it not counting towards the TAC, and also including small purse seines in that category now. It was also my hope with our initial selection of the 0.75 percent fixed minimums that we would be able to do away with the episodic event program; and the bycatch, what many people have referred to as a loophole, over the years. We're moving away from that direction here; so I can't support this motion.

CHAIRMAN BALLOU: Just for the Board's edification. My understanding is Option B as proposed under incidental catch and small scale fisheries, would not only now include purse seines as characterized, but would also include trawls, which was an issue brought up by the Advisory Panel. I just want to make sure the Board is clear that those would be gear types that would be allowed to fish; and that those landings in total would not be counted against the TAC, just to make sure we're all on the same page on this. I have Robert Boyles next.

MR. BOYLES: Again, thank you to the Board for indulging the discussion. I think the number of you I've talked to over the previous several months. Let me blunt and honest. There are a lot of things in the motion I just made that I don't like. I just don't like it. I won't be specific. I've talked to a number of you. I think you know what those things are.

I'm going to go back and tell you again; as a guy with no commodity in this fight. My interest is in the integrity and this body and this process. This body and this process that was tested this summer; and this body and this process that I think we're on notice, will be tested as a result of the actions that we take today.

I'm asking the Board's indulgence. There are things in here I don't like; make no mistake. But I think in the spirit and the interest of moving us forward, and not losing sight of the big prize; in my mind ecosystem reference points. That I think it's worth some give and take. It's perhaps a little bit of Frankenstein; in terms of a motion.

But I think if you look at the table, most jurisdictions end up better off than they are under the current allocation. I think we have sent a strong message with setting the TAC at 216,000 metric tons, to those folks who were gravely disappointed with our actions yesterday, with respect to our commitment to ecosystem reference points.

I think this is something; I would hope that this is something that the Board, perhaps more importantly the member states of our Commission, could live with as we move forward the development of ecosystem reference points. I would urge your consideration and urge your passage.

CHAIRMAN BALLOU: Eric Reid.

MR. REID: I'm a little bit concerned about Option B not accounting for small-scale fisheries. I have a question about the size of the purse seines that are in this fishery. We don't have a lot of purse seining in Rhode Island; but I know you do in Maine, and there is in Massachusetts as well.

Would a purse seine of this size fall – how many purse seiners do you have that use a net smaller than 150 by 8? I'm also concerned about episodic event being only 1 percent; if we go to

a half a percent fixed minimum. I guess my real question is about how much purse seine gear would fit into this category of not being considered or accounted for? Maybe somebody else could answer that.

CHAIRMAN BALLOU: I was just going to say, who might be best able to address that and I see Pat Keliher's hand up. Pat.

MR. KELIHER: The purse seines that are used in our fisheries right now are vastly larger than what is here. This would put a cap on the upper end size of a purse seine that would be able to be used. The fishery, we had a lot of people who are harvesting 6,000 pounds a day with purse seines that are twice this size.

They were doing that without a lot of spillage that was going over dead. We only one incidence of mortality associated with our fishery; with much larger seines. But the intent of that was to try to get the overall size under control; with the understanding that this is the language within Option B, which isn't here. This is for the 6,000 pound daily allocation. There is about 20-ish, could be more, and could be as many as 30 that will participate.

CHAIRMAN BALLOU: Ritchie White.

MR. WHITE: Pat just answered my question; and that is that this would be limited to 6,000 pounds a day.

CHAIRMAN BALLOU: Yes that's correct. Jim Gilmore.

MR. GILMORE: I'm just going to throw in, echo what Robert was speaking about. There are a lot of things I don't like in this reconsideration. But I think what we all need to keep in mind is as we move forward; I mean allocations is going to be our challenge for several species as we move forward over the next couple years.

We're getting into maybe even I walked in the room this morning, and what I want versus what I need. In terms of the Commission and

our guiding principles, we really need to look at cooperating, in terms of what our needs are, so that we can be functional as we move forward. It's easy to dig your heels in and maybe try to get what you can get out of the pie. But right now we really need to keep in the back of our minds is that we need to stick with those principles of the Commission, and really find a solution that keeps everyone's fishery viable.

That's probably the best term I can use. Other species that I won't mention right now, which we'll be talking about in a few months. It's really to have viable fisheries for all the states; and to cooperate the best we can to make that happen. As Robert said and I agree, there are things in here I don't like, but I support the motion, because I think it is what moves us forward in a cooperative fashion.

CHAIRMAN BALLOU: Steve Train.

MR. TRAIN: Like many that spoke already. If I had to pick this apart individually, I could probably find each item I don't like individually. But the quota allotment is obviously not enough to keep the Maine fishermen happy; if that was what we were working on. But when you tie all of these together, I think we can live with it and I can support the motion. But if we pull things out of it, I can't.

CHAIRMAN BALLOU: Emerson Hasbrouck.

MR. HASBROUCK: I pass, Mr. Chairman.

CHAIRMAN BALLOU: Pat Keliher. Is there anyone else on the Board who would like to address the motion; David Borden?

MR. BORDEN: Although I appreciate Robert's attempt here; I have problems with any portion of the landings not counting towards the quota. I think that sends the wrong message. I would have no problems if that were characterized as the soft cap. But I think there has to be a cap. The other thing that I've been personally

struggling here; and I think the Board has been struggling with.

I mean if you look at just fishery performance, and you can pick almost any timeline here recently. We have a whole group of states that really haven't had any performance in their jurisdictions. This is one of the flaws with the state minimum. In other words, we're allocating fish to states that have not had any type of performance.

Now much to his credit, Robert has been talking about foregoing his share of the allocation, I don't know how we get there. But I think we need to have a dialogue with the states that don't have any performance, history of performance in the fishery. Somehow, if we can get more jurisdictions to do exactly what Robert offered up, I think that's kind of the way forward. That would free up allocation to fix some of these issues. As I said, I don't know how to do that. If we had more time to do it, we could have a focused discussion individually or collectively on how to get there. We've done that on other species; black sea bass a long time ago, we had that type of discussion, and it was a negotiation.

To the extent that states that have not landed a pound for the last couple years, they're going to be allocated 2 plus million pounds. If they could say oh, well we'll take 500,000 instead of 2 million. That would solve a lot of the problems we're trying to deal with. I don't know how to generate that dialogue; or whether we have the time to generate that dialogue. But that I think is the way out of this box.

CHAIRMAN BALLOU: Allison Colden.

DR. COLDEN: I'll pass Mr. Chair, thank you.

CHAIRMAN BALLOU: Tom Fote.

MR. FOTE: Since Dave brought up black sea bass and how we got around that is because New Jersey gave up 20 percent of its quota.

Now when Bruce Freeman got back to New Jersey, there were not a lot of happy people there, because it was an arbitrary decision he made at the time. But that made the deal work then.

I don't see anybody sitting around this table wanting to give up 20 percent of their quota to help out, and try to make everybody happy. But that's how we got the black sea bass; by New Jersey stepping up to the table and giving up 20 percent of its quota.

CHAIRMAN BALLOU: Spud Woodward.

MR. WOODWARD: Just to get it on the record; in response to what Dave Borden said. The state of Georgia has no interest in prosecuting fisheries on its share of whatever we end up getting through these deliberations. I think if it will help the deliberations, you can certainly consider that our 2.6 million pounds is going to go wherever it can do the most good to help this situation. Since I'm going to be retiring at the end of December, I can make those kinds of promises, Tom.

CHAIRMAN BALLOU: Before I go back to David, anyone else who has not yet spoken. Cheri Patterson.

MS. PATTERSON: I could support everything here with the exception of Section 4.3.5. I think at least from our constituency and how most of us, some of us feel I should say, is that a lot of these ancillary numbers should be included in the TAC.

CHAIRMAN BALLOU: Roy Miller.

MR. MILLER: I would like to first express my appreciation to Robert; and all of the folks who worked on this issue since our lunch break. I'm very appreciative of the effort. Do I like all the details of this? I could quibble, like many others with individual points. I agree with Cheri, all catch including incidental catch in small scale fisheries I feel should go towards the quota.

But in general, I'm in favor of this and am appreciative of the effort.

CHAIRMAN BALLOU: Marty Gary.

MR. GARY: I appreciate all the discussion and hard work that everybody put into coming to this motion on the table now. Just a quick comment about Section 4.3.5, I won't speak for Maryland, but they probably have similar sentiment. It's essential for PRFC. We have a small-scale fishery. We typically hit our quota late summer into early autumn; and we're very reliant on that bycatch to continue us through the season.

We worked really hard on our accountability. We have trip level daily reporting submitted weekly, not monthly. When we hit 70 percent we have a mandatory call in for our 20 pound netters, and then when we hit the 90 percent threshold, we then switch over to bycatch. We really put in a lot of hard work with our harvesters and our staff; and make sure the accountability is there. I just want to make sure that you all know that that is really, really important to us. We need that there.

CHAIRMAN BALLOU: David Borden.

MR. BORDEN: I would just like to go back again and complement Spud and Robert for their willingness to try to strike a bargain here by enhancing it. I guess my suggestion would be to kind of break the mold here, is to take like a two or three minute caucus, ask the states that basically do not have significant fisheries talk among themselves, and see whether or not there are other jurisdictions that would be willing to give up some portion of their allocation. My suggestion would be anything that's given up would either be redistributed or go into Section 4.3.6.

CHAIRMAN BALLOU: We'll take that into consideration after I get Dave Blazer; who's next up. Then we'll try to figure out where we want to go from here.

MR. BLAZER: Really, what Marty said about the incidental catch. That is extremely important to our fishermen in the state of Maryland. I do want to remind everybody that in the management plan there is language in there. I won't read it verbatim, but basically that it's tracked.

If it becomes too much of a problem, it's too impactful that either that gear or trip reductions or other management measures can be taken as we follow that and learn that. There is some safety built in to that incidental catch for the small-scale fisheries. By the way, I'm supportive of this motion, even though it's not perfect for our situation. But again, I applaud the folks that helped put this together, and I'll be supporting it.

CHAIRMAN BALLOU: Dave Blazer. It's getting late, Dave Bush.

MR. BUSH: Although Mr. Blazer probably would like the opportunity to go again I guess. I don't know if it would be appropriate or not. We offered the opportunity, or you did, Mr. Chairman earlier for the public, one or two to weigh in on it, the original motion. Now this is a whole new grab bag, and those are the folks that we're trying to take care of. I don't know if maybe at your discretion, maybe a comment or two to see if this might be more livable.

CHAIRMAN BALLOU: It's a tough call. But I do feel that by and large this motion reflects provisions that are in the Amendment; and have already been subject to public comment. I am reluctant to open the door to additional comment; because I don't see this as being significantly different from what the options were as set forth in the Amendment.

That said; there is clearly interest. I think Adam Nowalsky expressed it, certainly David Borden did, and this issue of what happens under the fixed minimum program, which certainly the first part of this motion would enact. What

happens when states relinquish their quota? It's to be redistributed, it says that.

But it does not say how it's to be redistributed. It's really up to the Board whether you want to try to work through that issue question now, or potentially after a vote on this and coming back to it, or whether you just want to let it lay. It is what it is. I'll just sort of say that I sense that we're getting close to a vote.

But I'm aware that there have been a couple of points made regarding the implementation of the fixed minimum approach, particularly with regard to states that opt not to utilize their quota. I think there are two ways we could go; one would be to try to add on to this motion, the other would be to vote on this motion and then potentially circle back to that as a supplemental issue. I guess I'll take thoughts on that sort of piece; as well any other general comments.

I do sense we are approaching voting time, so I see three hands up. Let me go to the three hands that I see up; Nichola, Colleen, well we have four hands up. It sounds like there will be more discussion; as well there should be. This really is going to kind of be a big wrap, depending on the vote goes. Let's take the time we need to; to make sure we get it right. Nichola Meserve.

MS. MESERVE: I have now heard a number of Board members have concerns with the incidental catch and small-scale fishery Option B. There is also Option D in the document; which does provide the same 6,000 pound trip limit per day, or 12,000 pounds for the two permitted individuals on a vessel for the small-scale gears and the non-directed gears.

But those landings count towards the TAC and there is the 2 percent set aside. My question is actually for the maker of the motion; as to why, if there was a rationale for selecting Option B over Option D for the incidental catch, which



would count the bycatch landings towards the TAC.

CHAIRMAN BALLOU: Robert.

MR. BOYLES: It was offered in the form of an effort to build consensus.

CHAIRMAN BALLOU: Colleen Giannini.

MS. GIANNINI: Hi, I'm generally in support of the motion. I have the same concerns about Section 4.3.5; and because the incidental catch in the small scale comes in after a jurisdiction's quota is met. I'm just trying to wrap my head around what that magnitude is, given the increase in allocations with a fixed 5 percent, minimum?

MS. WARE: I mean obviously we can't necessarily predict what those will be. But I can say that especially last year, as there have been increases in the TAC, the magnitude of those incidental catch landings does seem to be declining. I will say that. I'm not sure if that will apply for this year. But that was a trend that we've seen to date.

CHAIRMAN BALLOU: Rachel Dean.

MS. DEAN: I just wanted to say that 4.3.5 is where we get behind this motion. The timeframe, 2009 to 2011 makes us uncomfortable, makes me uncomfortable. I won't speak for everyone. The half percent fixed minimum does not by any means get us to where we need to be. I just want to echo what Mary Gary said about how essential this is. I understand that there is the concern that some states would be allocated something that they don't intend to use. But the incidental catch and small-scale fisheries would mitigate that and essentially give that back to the states that are intending to use it.

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: We started today with the setting of a quota, or the TAC, which I supported in the end, hoping we could find a way to cut up this pie. It's obviously proving very difficult. I did not think I would be in a position where my fixed minimum was going to be half of what I was hoping it was going to get.

That being said, I am a reluctant supporter of this motion; assuming 4.3.5 remains in place, and I would urge the Board per David Borden's suggestion to take a pause and see where that exercise might get us regarding what jurisdictions, what state's might be willing to give up may help give us a clearer picture.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: We in Virginia also have a pound net fishery with quite a history; and of the seven gears that are involved in a quota, away from anything else, pound net is the one that is the largest. But it closes sort of without a pattern. It has been closed a couple of times since 2013; it has remained open.

You know there is a problem when it closes. I think we know with a fixed gear like that that discards are really not what we're aiming to do. I support the 4.3.5 provision. I also wanted to just ask Megan quickly on that magnitude question. Was it somewhere around 6 million pounds or something like that in one of those years for the bycatch? Does that ring a bell?

MS. WARE: Yes. I mean it sounds about right for the highest year; I believe was around 6 million. Then I can look it up, but I think last year was between 3 and 4 million.

MR. O'REILLY: Thank you, and if I may Mr. Chairman, based on last year that would be about 1.3 percent. Of course it's added on so it would be a little bit less; since it's not counting toward the TAC or towards the quota.

CHAIRMAN BALLOU: Steve Train.

MR. TRAIN: I wonder sometimes if everyone around the room remembers we've been working under what essentially is 4.3.5 from the beginning of this recent realm of management of menhaden. We've seen the stock continue to build; and it hasn't seemed to be an issue. I don't know why it's a sticking point now. Almost every state I look at has used it. It kind of makes this work. Without it, Maine can't support this.

CHAIRMAN BALLOU: Let's do this; well first let me go to Adam, and then I have a suggestion for a pause. Adam.

MR. NOWALSKY: If I could wait until after that pause; I had an idea I was going to toss out. But I'll be happy to do it offline, and then decide whether it warrants online discussion.

CHAIRMAN BALLOU: Let's pause for the purpose of essentially caucusing on whether the Board is ready to vote when we return; or whether there is any interest in doing any further modifications to the motion. We'll be paused for five minutes; and I'll call the meeting back to order.

(Whereupon a recess was taken.)

CHAIRMAN BALLOU: Okay that was a long recess; but hopefully a productive one. There certainly was plenty of engagement around the table. I see a couple hands up. I know David Borden has something he would like to say; as well Dr. Duval. I'll go to Dr. Duval first.

DR. DUVAL: Again, this is in regards to Section 4.3.5, the incidental catch and small-scale fisheries. You know we support counting all catch against the TAC. I recognize that moving to Option D would give a lot of people discomfort due to the 2 percent that will come off the top, and the impacts that might have to different jurisdictions allocations. I did want to ask Megan.

You know we do have a table in the Draft Amendment that indicates that on average the incidental catch has come out to 4.7 million pounds. Now, I was hoping if Megan could clarify for us that when you take the incidental catch that has occurred under this existing provision, and then add it to the total landings under the TAC. Have we exceeded the TAC in recent years?

MS. WARE: I've been doing a little research. Last year when we combined the directed landings and bycatch, we did not exceed the TAC. For the 2015 fishing year we did exceed it by 2 million pounds.

DR. DUVAL: Follow up, Mr. Chairman?

CHAIRMAN BALLOU: Sure.

DR. DUVAL: In 2015 the TAC was what?

MS. WARE: Approximately 414 million pounds.

DR. DUVAL: Okay. Thank you, I might have one more question.

CHAIRMAN BALLOU: Let me go to David Borden next.

MR. BORDEN: I will make this quick; and I kind of circled the table quickly. I mean we're trying to deal with two different problems here. One is in Section 4.3.6 the 1 percent. I had people say to me that they thought that percent was too low; and then this issue of 4.3.5 with the quota not counting.

I go back and reiterate, I'm not going to ask or put anybody on the spot, but if there are jurisdictions that would voluntarily contribute some portion of their minimum to those two activities; I think we could probably fix at least some of the issues we're trying to deal with.

CHAIRMAN BALLOU: Okay, additional comments if any; or is the Board ready for the question? It looks like the Board is ready for

the question; and I'm going to take the long recess we just had as the caucus opportunity. Without further ado; I will call the question, and ask all in favor of this motion please raise your hand.

MR. NOWALSKY: Mr. Chairman.  
CHAIRMAN BALLOU: Yes.

MR. NOWALSKY: I would like to request a roll call vote.

CHAIRMAN BALLOU: We shall do that; and I'll look to Megan, and we'll go south to north.

MS. WARE: U.S. Fish and Wildlife.

MR. MILLARD: Abstain.

MS. WARE: NOAA Fisheries.

MR. BURNS: Abstain.

MS. WARE: Florida.

MR. ESTES: Yes.

MS. WARE: Georgia.

MR. WOODWARD: Yes.

MS. WARE: South Carolina.

DR. RHODES: Yes.

MS. WARE: North Carolina.

DR. DUVAL: Yes.

MS. WARE: Virginia.

MR. O'REILLY: No.

MS. WARE: Potomac River Fisheries Commission.

MR. GARY: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Delaware.

MR. CLARK: Yes.  
MS. WARE: Pennsylvania.

MR. SHIELDS: Yes.

MS. WARE: New Jersey.

MR. ALLEN: No.

MS. WARE: New York.

MR. GILMORE: Yes.

MS. WARE: Connecticut.

MS. GIANNINI: Yes.

MS. WARE: Rhode Island.

MR. REID: No.

MS. WARE: Massachusetts.

MS. MESERVE: No.

MS. WARE: New Hampshire.

MR. WHITE: Yes.

MS. WARE: Maine.

MR. KELIHER: Yes.

CHAIRMAN BALLOU: **The motion passes 12 to 4 with 2 abstentions.** I believe we have perhaps just one issue left; Chesapeake Bay Reduction Cap if I'm not mistaken, because I believe this issue will essentially dispense with all of the other issues that were pending. Before I go to the Chesapeake Bay cap issue, I just want to make sure that the Board is comfortable with where we are.

I should just say I assume the Board is comfortable with where we are; because otherwise we could get back into it. Seeing no hands; I will now seek a motion on the issue of the Chesapeake Bay cap. Maybe to fill this awkward gap, I'll ask Megan to review the option. We'll see if that might help spur some interest.

MS. WARE: For the Chesapeake Bay cap there are three options. The Board can maintain the cap at the 87,216 metric tons, reduce the cap to 51,000 metric tons, or remove the cap, which means that there are no restrictions on the reduction fishery in the Chesapeake Bay. Then there are also sub-options which ask whether a portion of unused cap can be rolled over to the next year. Right now we do have a rollover provision; it's about 10,000 metric tons. I'll look that up for you guys; but right now we do allow a portion of that to roll over.

CHAIRMAN BALLOU: With that is there anyone on the Board who would like to make a motion? Rob O'Reilly.

**MR. O'REILLY: I'll make the motion for status quo for the Chesapeake Bay reduction fishery cap to be maintained at 87,216 metric tons. I'll have some explanation if I get a second.**

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Adam Nowalsky? Moved and seconded, Rob the floor is yours.

MR. O'REILLY: I understand those who have talked to me over the last few weeks, and talked about support for lowering this cap to 51,000 metric tons. I'm not sure they have all the information; but there are a few pieces of pertinent information. The first is that everyone knows that the reduction fishery has not been achieving the cap by quite a bit over the last, I would say five years.

The other pertinent piece of information is while we lowered everything; in terms of the

fishery opportunities and quotas for 2013, starting in that season. We also lowered the cap from 109,000 plus metric tons are where it was starting in 2006. When there were increases, both in February of 2015 and also in 2017, almost a 10 percent and then a 6.4 percent increase in 2017.

The Bay cap remained unchanged. There were no calls to increase that Bay cap. I think probably we talked a lot about fair. I'm not going to say the equitable in this case; I'm just going to say fair. But a lot went into this cap. In 2006, it was set at the average of 2001 to 2005. I was at that meeting.

Every organization, whether NGO or not, was quite pleased that the cap of 109,000 plus metric tons was established. Given that type of information, I would not find it fair that we want to reduce; and some of the reasons behind wanting to reduce it really may serve as a bad situation for the idea that the reduction fishery has not been in the Bay, does not wish to be in the Bay when possible. But there is going to be a rainy day. When is the rainy day? Is the rainy day going to occur five years from now? It's sort of a penalty to lower this cap. Thank you for the time; and I hope for those who weren't involved back in 2006, and didn't watch the progression of this cap, because there was no progression after 2012 – it stayed the same – that they will appreciate my comments.

CHAIRMAN BALLOU: Just to clarify. You certainly implied this with your reference to status quo. Status quo would also involve Sub-option A under Option A; limited rollover of unused cap permitted up to 10,976 metric tons. Is that your intent?

MR. O'REILLY: That is correct; and again that was something that was worked out 11 years ago, and has worked very well. I think the main point here is that that is status quo.

CHAIRMAN BALLOU: Allison Colden.

21 DR. COLDEN: Obviously, as a person who lives in the Chesapeake Bay watershed and region, I think this is a very important discussion that warrants a lot more discussion. **I would like to offer as a substitute amendment to adopt Option B, Sub-option B to reduce the Bay cap to 51,000 metric tons with no rollover.** I would like to comment on that if I may.

CHAIRMAN BALLOU: Is there a second to that. There is a seconder, John McMurray seconds the motion to substitute so it's been moved and substituted, and Allison, the floor is yours.

DR. COLDEN: I think that many people around this table already know that the Chesapeake Bay is an extremely important nursery habitat; not only for Atlantic menhaden, but a number of the other species that these Boards manage, that this Commission manages. Even though there have been increased contributions of other places up and down the coast, in terms of menhaden recruitment. The Chesapeake Bay remains the largest contributor of menhaden to the coastwide stock.

It's because of this contribution, as well as the contribution of other organisms like particularly striped bass, from the Chesapeake Bay that this issue concerns not just the Bay states, but obviously every state that is sitting around this table. I would also like to point out that we haven't been seeing the same types of recovery that's been seen in New England.

That's not entirely shocking for anyone who has followed the work of Andre Buchheister and his colleagues, who noted that there are some climatic patterns that seem to correlate well with the recruitment of menhaden, and particularly that those patterns are negatively impact Chesapeake Bay, when they positively impact New England.

As long as we're continuing to see menhaden growing in New England that would imply that we would continue to see this low level of recruitment and low levels of menhaden within

Chesapeake Bay. I would encourage this body at this point in time to really err on the side of the ecosystem; as we all said that we are committed to. Remember all of the other species coming out of the Bay, and that the Chesapeake Bay menhaden populations are supporting, when we are considering this issue.

CHAIRMAN BALLOU: Thank you. John McMurray.

MR. McMURRAY: Setting a cap at 51,000 metric tons is essentially the status quo; as that's what they're catching now. Industry has consistently underperformed the cap. I would also note that if the entire cap were landed where it's set now that is about 100 million additional pounds, taken out of what I consider to be a very small area. That would most certainly have an impact on menhaden in that region and certainly the predators that eat them.

CHAIRMAN BALLOU: Ritchie White.

MR. WHITE: I have a question for Rob. I've heard that a lot of the concern on not lowering the cap is that the new owners of Omega have other uses for menhaden than are presently being used; which might prompt the harvesting of smaller fish. Can you comment on this? Can you, if you know, is there any commitment that the company will continue to harvest the fish size that they have been harvesting? My understanding is that that is why they're not catching their cap; because that size fish is not available in the Bay.

CHAIRMAN BALLOU: Rob.

MR. O'REILLY: Thank you for the question, Ritchie. No, I really can't comment; because I do not know the aspects of the future plans there at all. But I think the one thing is that the smaller fish are not desirable. I think I can say that; as much so for oil, which is a pretty good product from Omega.

The other thing, while I have the ability to say something, is that it's not really fair to say that because someone has harvested a certain amount by volition for the last five years that they should be held to that. That's sort of making a decision on a fishery that the fishery should make a decision on.

Clearly, if there was 109,000 metric ton cap in 2006 and that was the average of 2001 to 2005. It tells you that at times when the stock was available, but not as robust as it is today, there was more harvest then. Now the stock is healthier, and for business reasons is all that I could say. You know the reduction fishery has not taken place to the same extent in the Bay. But I don't think that is a signal to anyone to decide that's where you're going to stay, that's your line.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: Rob just; clarify something for me, Rob. In this instance you don't want to go by history. In the last five years you haven't come near your quota, and you're saying you can't go by the fact that we didn't catch it. But yet when we were dealing with all the other matters, then history seems to mean everything. There is in my mind a bit of contradiction.

But as a comment, on the one hand I could believe that it doesn't matter whether the quota is at 87,216 or 51,000, because you're not catching it. What that number is really doesn't need to be changed on the one hand, because you're not getting up to the 51,000 anyways. I don't know, but I think it sends the wrong message of catching too many fish out of the Chesapeake. I know the recreational people don't want that. I could go either way, but I think that lowering that number probably does no harm to anyone.

CHAIRMAN BALLOU: Additional comments on the motion, before I go back to Allison who has

spoken already, I would like to get others in. Nichola Meserve.

MS. MESERVE: Just very quickly, I support the substitute and the comments from Allison and John. It seems like one example, one place where we could follow the overwhelming public comment on this issue, and not have an economic harm imposed by it.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: I think just this cap is based on average harvest over a number of years; and I know that there was previously a research program that was focused on trying to determine whether or not localized depletion was occurring. You know that research was inconclusive. I guess I would just put out there that I would hope that in the future that this might be something that the Board would revisit, should there be conclusive science that indicates one way or another how a cap should be set.

CHAIRMAN BALLOU: Back to, who I now realize should be addressed as Dr. Colden, my apologies. I now see that I've been off for only the past ten hours, on improperly addressing you, so Dr. Colden, back to you.

DR. COLDEN: That's no problem. I just wanted to make one comment in response to Rob's comment about fairness and equity. At the current, under status quo, there is the possibility; there is the capacity to harvest 97,000 metric tons from Chesapeake Bay, almost half of the entire coastwide TAC that we've been discussing all afternoon.

I don't know whether the recreational anglers of Virginia and Maryland would consider that equitable; but I think I know the answer to that question. In terms of a business decision, it's obvious that if the business decision has been made to harvest at a specific level within the Bay over the past five years. That this is not a business decision that is negatively impacting

the bottom line; or else that decision would not have been made.

You know I think this reflects the past five-year's landings from the Bay. It's simply updating the window; the way that the cap was originally put in place. We're simply updating to the last five years; and making it similar to the way the cap was first implemented when it was first put in place. I hope folks will consider those comments when they are considering this.

CHAIRMAN BALLOU: Any additional comments on the motion? Rob O'Reilly.

MR. O'REILLY: Very briefly. I think the main issue is that this is a coastwide stock; and there is no scientific basis to indicate that the Chesapeake Bay has suffered from any localized depletion. I certainly understand those who hold to that concept; only because they think of the Chesapeake Bay as differently than the coastal area, but it's not.

It's a unit stock, a coastwide stock. Science has not shown anything else. I think that is important, and I think for that reason there was an option here to remove the cap as well, which hasn't been talked about. I think that is where maybe some would get some comfort by knowing a cap is there; but once you have that comfort, I don't think you need to go any further.

CHAIRMAN BALLOU: Any further comments on the motion to substitute? Seeing none; is the Board ready for the question? Is so does the Board need time to caucus? I'll assume there might be at least some time needed, so let's make it a 30 second caucus. There has been a request for a roll call; so I'll have Megan call the roll moving north to south.

MS. WARE: Maine.

MR. KELIHER: Yes.

MS. WARE: New Hampshire.

MS. PATTERSON: Yes.

MS. WARE: Massachusetts.

MS. MESERVE: Yes.

MS. WARE: Rhode Island.

MR. REID: Yes.

MS. WARE: Connecticut.

MS. GIANNINI: Yes.

MS. WARE: New York.

MR. GILMORE: Yes.

MS. WARE: New Jersey.

MR. ALLEN: No.

MS. WARE: Pennsylvania.

MR. SHIELDS: Yes.

MS. WARE: Delaware.

MR. CLARK: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

MS. WARE: Virginia.

MR. O'REILLY: No.

MS. WARE: North Carolina.

MR. BRADY: Yes.

MS. WARE: South Carolina.

MS. GIANNINI: Yes.

DR. RHODES: Yes.

MS. WARE: New York.

MS. WARE: Georgia.

MR. GILMORE: Yes.

MR. WOODWARD: Yes.

MS. WARE: New Jersey.

MS. WARE: Florida.

MR. ALLEN: No.

MR. ESTES: Yes.

MS. WARE: Pennsylvania.

MS. WARE: NOAA Fisheries.

MR. SHIELDS: Yes.

MR. BURNS: Abstain.

MS. WARE: Delaware.

MS. WARE: Fish and Wildlife.

MR. CLARK: Yes.

MR. MILLARD: Abstain.

MS. WARE: Maryland.

CHAIRMAN BALLOU: **The motion passes 14 to 2 with 2 abstentions.** It now becomes the main motion; is there any further discussion on the main motion? Is there any further discussion on the main motion? Seeing none; is the Board ready to vote? If so do we need a roll call vote? Hearing no request, all in favor, yes there is a roll call vote on this now as the main motion. We'll call the vote again; same order.

MR. BLAZER: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

MS. WARE: Virginia.

MR. O'REILLY: No.

MS. WARE: Maine.

MS. WARE: North Carolina.

MR. KELIHER: Yes.

MR. BRADY: Yes.

MS. WARE: New Hampshire.

MS. WARE: South Carolina.

MR. ABBOTT: Yes.

MR. BOYLES: Yes.

MS. WARE: Massachusetts.

MS. WARE: Georgia.

MS. MESERVE: Yes.

MR. WOODWARD: Yes.

MS. WARE: Rhode Island.

MS. WARE: Florida.

MR. REID: Yes.

MR. ESTES: Yes.

MS. WARE: Connecticut.

MS. WARE: NOAA Fisheries.



MR. BURNS: Abstain.

MS. WARE: Fish and Wildlife.

MR. MILLARD: Abstain.

CHAIRMAN BALLOU: **The motion passes 14 to 2 with 2 abstentions.** We're almost at the end, and I am not a glutton for punishment. But I have been advised by staff that left hanging is the issue of what will happen in terms of the administration of any quota allocated to a state under our fixed minimum program that a state opts not to utilize.

It's left vague in the document; and there are I think two ways to handle this. One is to get into it right now; and decide how best to administer that reallocation of unused quota, the other is to push it to an addendum process. What is the will of the Board? Does anyone not get the point; or understand why we're bringing this up? I think I'm bringing it up because staff has advised; but Bob.

EXECUTIVE DIRECTOR BEAL: I guess some concern about timing with the addendum process or potential addendum process. You know, the states are going to have to decide very soon if they're going to harvest some or all their quota in 2018. The earlier we know that the earlier the receiving states, if you want to call it that, can make their plans.

The assumption is Virginia may be one of the receiving states. Keep in mind that menhaden is managed through the Virginia State Legislature; rather than through VMRC, and legislative session begins at the beginning of the calendar year. The more Virginia knows, I think at the beginning of the year, the more information they have to work with going into the legislative sessions.

If there is an easy way to do it right now it would be a lot better. Easy and now is probably an oxymoron. But I think anything we can do to help staff understand how we're supposed to

divvy up the relinquished fish would help a lot of folks out, I think.

CHAIRMAN BALLOU: Thank you for that advice. With that advice, are there any suggestions from the Board? Pat Keliher.

MR. KELIHER: I move we have a caffeine break. No, Mr. Chairman I think we need some language. Do you have some language there, Megan? **Mr. Chairman, I would move that states must declare any relinquished quota by December 31st of the previous year. Any quota that is foregone by a state is redistributed to the other jurisdictions based on historic landings from the time period selected by the Board in this Amendment.**

CHAIRMAN BALLOU: Is there a second to that motion? Seconded by David Borden, Pat Keliher, do you want to speak more to it?

MR. KELIHER: I don't think this is perfect; by any stretch of the imagination. I think there were other comments during the last deliberation; in regards to have it going to very specific areas, whether it be the small-scale fishery or whether it be episodic. I don't think that is precluded from this motion. But it may need to be more specific. But I think the intent is to ensure that we have a clear understanding up front, and that clear understanding would be prior to December 31st.

CHAIRMAN BALLOU: Thank you. David Borden.

MR. BORDEN: I seconded it for discussion purposes. But I guess my question to Bob is, is December 31st adequate; in order to do what you want to do here, or should we back it up to like November 1st, or some date in November?

EXECUTIVE DIRECTOR BEAL: Mr. Chairman.

CHAIRMAN BALLOU: Please, I'm sorry.

EXECUTIVE DIRECTOR BEAL: It might be a better question for Rob O'Reilly. I don't know exactly when they have to have their legislative packages squared away to go into their

legislative process. The end of the year may be really tight for them; you're right, David. I don't know if mid-December is right or what it may be. But Rob may have a better sense of their legislative timing.

CHAIRMAN BALLOU: Rob, did you want to, yes I'm sorry.

MR. O'REILLY: I think December 1 would be better. I think that's a good suggestion. I think December 1 would be. It's going to be a little bit difficult the first time around to go through this. I understand that. But that would give time for the General Assembly Session in Virginia.

CHAIRMAN BALLOU: This is two weeks from today, more or less. Pat Keliher.

MR. KELIHER: I would accept that as a friendly if my seconder would.

CHAIRMAN BALLOU: **Is there any objection to amending the motion to change December 31 to December 1? Seeing none; the motion is amended,** and we're continuing our discussion on it. Dr. Rhodes.

DR. RHODES: Well, I had one other friendly amendment; because I've been hearing concerns about the 1 percent episodic event set aside. Would it be appropriate to put in here, any quota that is foregone by a state covers the 1 percent episodic event set aside, and the remainder is redistributed. That way no one has to worry about losing any of their 100 percent quotas.

CHAIRMAN BALLOU: My take is those are two very different approaches. One goes right down the list of allocations, allocation percentages for the 2009-2011 period, and redistributes accordingly. The other would do something different. Your approach would do something different; I don't see how that could be a friendly. It would have to be in the form of a substitute. Adam Nowalsky.

MR. NOWALSKY: Would there be any merit to specifying that the receiving states be states that did not relinquish quota; because I don't think it would make sense to donate back to states that are already giving something up. I might suggest consideration here that any quota that is foregone by a state is redistributed to the other jurisdictions that are not relinquishing quota. I'll put that out there for consideration.

CHAIRMAN BALLOU: That could be in the form of a friendly, I think. But first Bob Beal has a point.

EXECUTIVE DIRECTOR BEAL: I guess the way I was reading it, Adam, the notion that any foregone quota will be redistributed to other jurisdictions meant exactly what you said, which is jurisdictions other than the ones that relinquish quota. That is the way I was reading it; but maybe I was assuming too much.

CHAIRMAN BALLOU: Let me just ask Pat Keliher as the maker of the motion. Is that your intent?

MR. KELIHER: Our Executive Director did not assume too much, for once.

CHAIRMAN BALLOU: We have that clear on the record now that that is the intent. Nichola Meserve.

MS. MESERVE: Question to the maker of the motion whether this was intended to provide the flexibility to states to relinquish any amount of the fixed amount; as opposed to what the document currently says about 10,000 pounds for bycatch, or forego entirely.

MR. KELIHER: That's a great question. The intent would be to relinquish quota; with the understanding the document allows for that bycatch allocation.

CHAIRMAN BALLOU: Nichola, does that address your question?

MS. MESERVE: I think it's been answered. I guess I would have hoped that the states had more flexibility to give up any amount that they wanted to, as was part of the earlier motion today.

MR. KELIHER: I'm not opposed to that. It meets the intent of my original motion earlier in the day.

CHAIRMAN BALLOU: Again that is on the record as the intent. States have the flexibility to relinquish all or part of their quota. John Clark.

MR. CLARK: Just kind of a follow up. There could be a situation where, I'm just thinking of in our state. We would relinquish some of our quota; but it might turn out that in the fishing year of 2018, as we get to the end there would be more quota we could relinquish under this. It's only for the previous year. Would there be a way to relinquish quota during the fishing year also?

CHAIRMAN BALLOU: I think the answer to that is via transfer, yes, further discussion on the motion, Spud Woodward.

MR. WOODWARD: Just a question. If this motion were to pass, foregone means anything that is not transferred or used, is that correct?

CHAIRMAN BALLOU: I'm sorry, there is typing going on. I'm trying to follow, but let me see if Megan has a response.

MS. WARE: I'll just use a hypothetical. If Georgia wanted to forego half of their fixed minimum, half of your marbles would go through this process, and the other half you would still have. If you want to transfer those, you can do that.

MR. WOODWARD: Or I could transfer the entire quota to someone by declaring to do that on December 1st, which would leave nothing foregone. Is that correct?

MS. WARE: Correct. You would not opt out of the fixed minimum, so you would have all your marbles and you can do with them what you would like.

MR. WOODWARD: Well I would sure like to have all my marbles; it would be the first time in my life. I think I understand this, all right thank you.

CHAIRMAN BALLOU: As we were just having that good exchange, the motion has been perfected and it now reads: ***Move that states must declare any relinquished quota by December 1st of the previous year. States have the ability to declare how much of their quota to relinquish. Any quota that is foregone by a state is redistributed to the other jurisdictions based on historic landings from the time period selected by the Board in this Amendment. Is there any objection to that perfected language?*** I see no objection from the Board. Toni Kerns.

MS. KERNS: Just a perfection, perhaps instead of saying foregone, we should be consistent and say relinquished, quota that is relinquished by a state, just to be consistent.

CHAIRMAN BALLOU: That makes very good sense to me. ***Is there any objection to substituting the word foregone with the word relinquished? Seeing none; we have an even more perfected motion.*** Is there any more perfection that needs to be done, or any more discussion that needs to take place on this motion?

Seeing none; is the Board ready to vote on it? If so; do you need time to caucus? Let's just do a 15 second caucus. All right, I'm going to call the question. **All in favor of the motion please raise your hand, thank you. Those opposed please raise your hand. Are there any null votes, I see none. Are there any abstentions, and there are two. The motion passes 16 to 0 with 2 abstentions.** I now believe, if I'm not

mistaken but I may be, because I just see a hand go up. Robert Boyles.

MR. BOYLES: Mr. Chairman, I was going to offer a motion to approve the Amendment and they're not, okay, sorry.

CHAIRMAN BALLOU: We have one issue before that motion; which is moments away, I believe, and that is an implementation date. We do need an implementation date. Megan, if you could just speak to the options if you will that the Board has for an implementation date.

MS. WARE: It's really at the discretion of the Board; if there are certain timeframe constraints, states should probably come up with those now. My sense from the Board is that the intent is to have this implemented for the 2018 fishery.

CHAIRMAN BALLOU: We do need a motion on this. Would anyone like to make a motion regarding the implementation date for this Amendment? Tom Fote.

**MR. FOTE: I make an implementation date of 2018.**

**CHAIRMAN BALLOU: Tom, would you want to make that January 1, 2018?**

**MR. FOTE: Yes.**

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Loren Lustig? The motion is to move that states implement the provisions of Amendment 3 by January 1, 2018; discussion on the motion. John Clark.

MR. CLARK: As far as the Amendment won't be implemented until January 1, but Rob needs quota transfer to him by December 1. Do we have the quota as of the end of this meeting or as of January 1?

MS. WARE: I mean I can certainly work to get out the numbers as soon as I can as to what

your guys quota will be with the different set asides. Then you guys can make decisions as to whether you would like to relinquish quota or not; if that helps.

MR. CLARK: Right, I just wanted to make sure. Okay, so all the factors are going into effect as of today. We'll be transferring before the plan actually goes into effect.

MS. WARE: I think that's, I guess the intent of what the Board is deciding.

CHAIRMAN BALLOU: Just to clarify. We just agreed on some provisions that really are Amendment provisions that will actually kick in prior to January 1, 2018. John, to your point, I think it's a very fair point. But I think the record will reflect that those preliminary steps will be undertaken prior to implementation. You could argue they are part of implementation; but I think we're probably splitting hairs at this point, unless there is a feeling that we need to be more clear. Rob O'Reilly.

MR. O'REILLY: The Commissioner reminds me that the startup date is a little after January 1 for the General Assembly. But clearly that would be the implementation authority. It's not going to help the situation with the December 1 declarations. But January 1 might be a little bit too early to say that's the implementation.

I'm a little surprised. I think there probably are some other states that are going to need a little bit of time to do this as well. I remember in the past we've had to adopt even a May 1, which we don't want to do here. But I guess I'm asking the other states about this January 1 date. Maybe it might be better to put it into February.

CHAIRMAN BALLOU: Are there any thoughts by other Board members on whether January 1, 2018 is a date that they're comfortable with, or whether they wish to adjust? Cheri Patterson.

MS. PATTERSON: Question please. Megan, what is the harvest in the month of January?

MS. WARE: I don't know off the top of my head; but low.

CHAIRMAN BALLOU: Robert Boyles.

MR. BOYLES: Mr. Chairman, I would, I'm sorry you've got a motion. I'm sorry, never mind.

CHAIRMAN BALLOU: Any further discussion on the motion? Nichola Meserve.

MS. MESERVE: Just to clarify. Our state implementation plan is also due January 1, 2008, because Page 82 of the document has the option for two different dates for implementation plans being due, and then programs implemented.

CHAIRMAN BALLOU: Megan.

MS. WARE: Yes that's a good point. One option, taking into consideration what Rob O'Reilly said is we could do implementation plans due January 1, and then implementation date January 15, or February 1, whatever works. But that's just one suggestion.

CHAIRMAN BALLOU: There has been a suggestion. Is there an interest in modifying this motion? Robert Boyles.

**MR. BOYLES: Move to amend.**

CHAIRMAN BALLOU: Thank goodness, because we need this kind of excitement. Go ahead.

**MR. BOYLES: I would move to amend that states submit implantation plans for Amendment 3 by January 1, 2018, and implement by January 15, 2018.**

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Jim Gilmore? Discussion on the motion to amend, is there any objection to the motion to amend? Seeing none; I'm sorry, Roy Miller.

MR. MILLER: Mr. Chairman, do we have to vote on those implementation plans?

MS. WARE: There is no voting. What has happened before is the Plan Review Team will review those; to make sure everyone has kind of checked the boxes on the various parts of the plan that the Board has voted on today. If there are any concerns then the PRT will notify the Board; potentially electronically or at the February meeting. We'll figure out the timing there. But that's how we have done it in the past.

CHAIRMAN BALLOU: I'll ask again, is there any objection to the motion to amend? Roy Miller.

MR. MILLER: I'm sorry, Mr. Chairman, I hate to be a nitpicker. But if the Board will be reading over these implementation plans, why not push back the actual implementation until the February meeting?

CHAIRMAN BALLOU: Toni Kerns.

MS. KERNS: Oftentimes we have a more complicated plan that will need information from the states. The states will have a lot more things to change. In this document for the most part, the only thing that you're going to be implementing is a quota. If a state can't implement the quota by January 15, then that is what we would need to know right now. Otherwise, I'm not sure there is going to be a lot of Plan Review Team review of the state implementation plans, because you're just going to come back and tell us yes, we're implementing our quota. I'll leave that with the Board to discuss.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: I know Robert Boyles has been trying to help me out here. I guess the situation is this isn't anticipated to be an emergency action at the General Assembly. The General Assembly goes into March, I think this year. I'm

looking to the back of the room and getting a head nod.

At the least, it would not be voted on and finalized through the House and the Senate, and be in the Governor's packet for him to either veto or sign, until March. I'm looking to the back of the room, or early April. Again, I'm a little surprised. First of all please know that this is a rare occasion; because usually VMRC is able to promulgate regulations fairly quickly, you know within a two month period.

It does put us in a bind that way, in that we really wouldn't have the quota ratified until early April. I don't know what to say other than that. I suppose we could be fishing not with reduction or with the snapper rig fisheries up until May, starting in May. But there is a bycatch situation, and the pound nets may start in late February some years. It depends. You know it's sort of a mess, I guess. But I think we can work around this better if it's not January 15, and again I know this is sort of a unique situation, just looking for some guidance.

CHAIRMAN BALLOU: Bob Beal.

EXECUTIVE DIRECTOR BEAL: A number of instances at the Commission, the Boards have set implementation dates, knowing that certain states or Commonwealths may take longer to implement. The compliance and other things have been really evaluated, based on whether a state is or is not moving toward implementation.

January 15 may not be the right date, but if it's March 1, or whatever it may be. The Commission is aware that states are working through their rule making or legislative processes to implement this Amendment. I think that is the most important thing. The other important thing is all states are working up the same sheet of music that know that the quotas that are approved through this Amendment and the spec setting process, are fully applicable to 2018.

We're not starting the year with a different quota, and then on the implementation date we're switching gears to a new quota. The Board today has approved the 2018 quotas that the states are going to be evaluated by. I think the implementation date may not be that critical. It's the state's working toward implementation of this that is the most important.

With that you guys can consider pushing back January 15 a little bit. But I don't know if we need to set the implementation date at sort of the least common denominator of the slowest legislative process; because some of the other states may need a shorter timeframe to sort of motivate them to implement the provisions earlier.

CHAIRMAN BALLOU: Eric Reid, did you have a comment?

MR. REID: I have a question. I think maybe Bob answered it; but I just want to be clear. What happens on January 1, as far as going fishing? What are we working off of? Are we working off of no quota? Are we working off of some quota? Do we have a bycatch? What do we have to work with?

CHAIRMAN BALLOU: Bob Beal

EXECUTIVE DIRECTOR BEAL: My understanding is you'll start with the allocations that are included in Amendment 3; based on the 216,000 metric ton quota that was approved earlier.

CHAIRMAN BALLOU: Yes, Andy Shiels.

MR. SHIELS: Would it make more sense to substitute the word implement and say no later than and pick a date; based on what Bob Beal said that you don't want to go for the fastest or the slowest state, but if it's no later than then everybody can work up to that date?

CHAIRMAN BALLOU: It's a suggestion. The Board can take that to heart, or we can just vote as proposed. I see two hands. Dr. Rhodes.

DR. RHODES: This harkens back to an issue that we often have before the Board when we change rules or limits; because South Carolina, all processes are done by the legislature, so Robert frequently is telling the Board that we will get this done as quickly as we can. However, it goes through the legislature. Virginia is in the same boat as us. We've never asked to change implementation dates, and I think the Board recognizes that if you're handcuffed by the legislature in certain areas you are, but you're working towards that goal.

This would be fine if other states require a little fire to get everything implemented by an earlier date, we would do that. We just stay aware of the fact that Virginia is moving as rapidly as their legislature allows. We've been in that boat 100 times, and you all have all forborne us during those times.

CHAIRMAN BALLOU: Robert Boyles.

MR. BOYLES: Mr. Chairman, I'm sorry. I meant to say April 15 for implementation date.

CHAIRMAN BALLOU: Is that serious?

MR. BOYLES: Yes sir, I did. I'm tired, I'm sorry, distracted.

**CHAIRMAN BALLOU: *That's okay. Now we have a modified motion to amend that states submit implementation plans for Amendment 3 by January 1, 2018, and implement by April 15, 2018. Is there any objection to that modification to the amended motion? Seeing none; the motion stands amended, but we still haven't voted on it yet.***

Is the Board ready to vote? **Are there any further questions or discussions on this issue? Seeing none; is there any objection to adopting the motion to amend? Seeing no objections;**

**the motion to amend is adopted by consent, and it becomes the main motion.** Is there any further discussion on this now as the main motion? Seeing non hands; is there any objection to adopting this now as the final motion on implementation? Seeing no objections; the motion stands approved by consent, and now Robert, I do believe we're ready for one final motion. Right, yes we are.

**MR. BOYLES: I would recommend to the Commission the approval of Amendment 3 to the Menhaden Interstate Fishery Management Plan as amended today.**

CHAIRMAN BALLOU: Is there a second? Seconded by Jim Estes, moved by Robert Boyles and seconded by Jim Estes, is there discussion on this motion? This will be a final action by the Board; the final action on Amendment 3. It will be a roll call vote by necessity, and it will end the process of considering Amendment 3. Loren Lustig.

MR. LUSTIG: I certainly appreciate what we've had today; which has certainly been a very insightful discussion. I apologize to those of you might wish that I had forgotten, but I did not forget Rachel, my pal over here in Maryland using the word "unless." Here's my response. The Lorax said, "Unless someone like you cares a whole awful lot, it's not going to get better, it's not." I think what we proved to our critics and our supporters are that the people in this room care a whole awful lot. Thank you.

CHAIRMAN BALLOU: Any further discussion on this motion? Seeing none; I'll have Megan call the roll. We'll go north to south.

MS. WARE: Maine.

MR. KELIHER: Yes.

MS. WARE: New Hampshire.

MS. PATTERSON: Yes.

MS. WARE: Massachusetts.

MS. WARE: Georgia.

MS. MESERVE: Yes.

MR. WOODWARD: Yes.

MS. WARE: Rhode Island.

MS. WARE: Florida.

MR. REID: Yes.

MR. ESTES: Yes.

MS. WARE: Connecticut.

MS. WARE: NOAA Fisheries.

MS. GIANNINI: Yes.

MR. BURNS: Yes.

MS. WARE: New York.

MS. WARE: U.S. Fish and Wildlife.

MR. GILMORE: Yes.

MR. MILLARD: Yes.

MS. WARE: New Jersey.

CHAIRMAN BALLOU: **The motion passes 17 to 1 and the Amendment stands adopted.** Thank you, and before we move on to what I believe is our last agenda item, and it's a brief one, relatively brief. Indulge me for one minute, just one minute for some closing remarks. I would appreciate your time.

MR. ALLEN: Yes.

MS. WARE: Pennsylvania.

MR. SHIELS: Yes.

I really feel like I've learned two things through this process. One is that I was advised early on that amendments are a big deal; and I found that to be true. Then I've really learned that amendments pertaining to menhaden are really big deals. It has been quite a journey; but the second lesson that I've learned is that the journey is made possible thanks to the team effort of so many people.

MS. WARE: Delaware.

MR. CLARK: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

I'm sure I'm missing some key folks here, or key entities. But I think back to the Allocation Workgroup Process that Robert Boyles began prior to my Chairmanship, while he was still Chair, which really carried forward and was very much a part of the provisions that ended up in this Amendment.

MS. WARE: Virginia.

MR. O'REILLY: No.

MS. WARE: North Carolina.

DR. DUVAL: Yes.

I think of the Plan Development Team and listening into their many hours of meetings, and working through these issues. I think of the Technical Committee and the BERP Working Group, and of course the Advisory Panel; for all

MS. WARE: South Carolina.

MR. BOYLES: Yes.



of their hard work over the course of really, the past two years. This has been a long process.

Of course I recognize prior, and recognize again the enormous amount of public input that was provided for this process; and how well received and appreciated it was. Of course there is this Board, and I've never been so privileged to work with such a fine group of people. It has been an honor and really a great experience to work with you through this process and get to where we've gotten.

Last but not least this person to my right, Megan Ware, our FMP Coordinator (Applause), what a champion and what a dear friend and colleague. Thank you so much, Megan for all of your work. Boy, I'm sure it's going to feel good tomorrow to know that this is actually behind you. I believe Max might be stepping in, if I've got that right, so welcome, Max.

It's a cake walk, I assure you. Before we do turn to our last item, I just have to note how skilled and talented Russ Allen is, agreeing to serve as Vice Chair, and then also leaving us just at the point where he would have assumed the Chairmanship. Well played, Russ. But in all seriousness, thank you.

I know we acknowledged and thank you for your contributions to this Commission at the last meeting. But certainly, let's take this opportunity to thank Russ for all of his contributions to the Menhaden Board. Thank you. (Applause) With that we turn to our last agenda item, which is, I'm sorry, Dennis Abbott.

MR. ABBOTT: Excuse me, Mr. Chairman. You thanked an awful lot of people; but you didn't thank yourself, which is not appropriate to do. But on behalf of the Board, I would like to thank you for the work that you've put into this, and also like to thank you for the way that you have conducted all the meetings with the utmost consideration to every person in the room. I think you ought to be congratulated; and we

surely appreciate the work that you've done over the past two years. Thank you! (Applause)

CHAIRMAN BALLOU: Thank you very much and you're going to want to stand again; because I was just reminded that this is Spud Woodward's last meeting. Let's please stand and give a round of applause to our colleague, Spud Woodward. (Applause)

#### **ELECTION OF VICE-CHAIR**

CHAIRMAN BALLOU: With that we are indeed onto our last item of business; which is the election of a Vice-Chair. Does anyone have any recommendations or motions to make? Robert Boyles.

MR. BOYLES: **I would move that we nominate, select, and elect, and sentence Nichola Meserve as Vice-Chair of the Atlantic Menhaden Board, and if I could just to expedite things and the nominations be closed.**

CHAIRMAN BALLOU: I guess we need a second. Loren Lustig seconds that. Nominations are therefore closed. There is no chance Nichola that you're getting out of this one. **Is there any objection to the motion? Seeing none;** congratulations, Nichola and we look forward to your leadership as a follow to all that's been done by all of the prior Board Chairs and welcome and congrats.

MS. MESERVE: Big shoes to fill, but I expect nothing but smooth sailing for the next two years.

#### **ADJOURNMENT**

CHAIRMAN BALLOU: With that I believe the next order of business would be to adjourn; and then there might be a reconvening of the Business Section. Do I have that correct? Jim will be doing that; and Jim is already poised and ready to go, so this is going to be a quick transition. I will hereby adjourn this meeting of the Menhaden Board and turn it over to Jim Gilmore for the Business Section.

(Whereupon the meeting was adjourned  
around 3:00 o'clock p.m. on November 14,  
2017)



# Atlantic States Marine Fisheries Commission

## Atlantic Menhaden Board & Business Session Meeting Summary

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*Vision: Sustainably Managing Atlantic Coastal Fisheries*

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Atlantic Menhaden Management Board  
& Business Session  
Baltimore, MD  
November 13 & 14, 2017

Toni Kerns, ISFMP, or  
Tina Berger, Communications  
For more information, please contact  
the identified individual at  
703.842.0740

### Meeting Summaries, Press Releases and Motions

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## **ATLANTIC MENHADEN MANAGEMENT BOARD (NOVEMBER 13 & 14, 2017)**

### ***Meeting Summary***

In addition to taking final action on Amendment 3 and setting the 2018 and 2019 total allowable catch limits for Atlantic menhaden (see press releases under Business Session), the Board elected Nichola Meserve (MA) as its Vice-Chair. For more information, please contact Megan Ware, Fishery Management Plan Coordinator, at [mware@asmfc.org](mailto:mware@asmfc.org) or 703.842.0740.

### ***Motions***

#### **Main Motion**

**Move to adopt reference point Option E: BERP Workgroup Continues to Develop Menhaden-specific ERPs with Interim Use of 75% Target, 40% Threshold as described in Draft Amendment 3.**

Motion made by Mr. Borden and seconded by Ms. Meserve. Motion substituted.

#### **Motion to Substitute**

**Move to substitute to adopt Option B: BERP workgroup continues to develop Menhaden-specific ERPs with Interim Use of Single-species Reference Points as described in Draft Amendment 3.**

Motion made by Mr. Keliher and seconded by Mr. Allen. Motion passes (Roll Call: In Favor – ME, NY, NJ, DE, MD, PRFC, VA, NC, SC, GA, FL, NOAA Fisheries, USFWS; Opposed – NH, MA, RI, CT, PA)

#### **Main Motion as Substituted**

**Move to adopt Option B: BERP workgroup continues to develop Menhaden-specific ERPs with Interim use of Single-species Reference Points as described in Draft Amendment 3.**

#### **Motion to Amend**

**Move to amend to add to set the TAC at 200,000 metric tons for the next two years (2018-2019).**

Motion made by Mr. Boyles and seconded by Mr. McMurray. Motion fails (Roll Call: In Favor – RI, CT, PA, SC, GA; Opposed – ME, NH, MA, NY, NJ, DE, MD, PRFC, VA, NC, FL, NOAA Fisheries, USFWS).

#### **Main Motion as Substituted**

**Move to adopt Option B: BERP workgroup continues to develop Menhaden-specific ERPs with Interim Use of Single-species Reference Points as described in Draft Amendment 3.**

Motion passes (16 in favor, 2 opposed).

**Move that if the fixed minimum option is selected the following conditions would govern the activity:**

**At the start of each fishing year and no later than January 31<sup>st</sup>, states must declare if they want to participate in the fixed minimum program.**

**States have the option to opt -out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds for bycatch purposes and decline the remainder of their quota. States also have the right to opt-in to the program and receive their full allocation. In declaring its intent to receive its fixed minimum quota, a state can also chose to receive all, or part, of this amount. If a jurisdiction declines its full allocation it must specifically identify the amount requested. States which opt-in must demonstrate that the state has the intent and ability to commercially harvest some, or all, of its**

**menhaden quota for a directed or bycatch fishery. This can be demonstrated through the issuance of permits for applicable gear types or species, historic landings, or the abundance of menhaden in state and/or federal waters. Any quota that is not received by a state is re-distributed to the other jurisdictions based on historic landings from the time-period selected by the Board in this Amendment.** Motion made by Mr. Keliher and seconded by Mr. White. Motion tabled until after Issue 2 is addressed.

**Move to table until after Issue 2: Allocation Methods and Timeframes has been decided.** Motion made by Mr. Nowalsky and seconded by Mr. O'Reilly. Motion carries unanimously.

**Main Motion**

**Move to set a total allowable catch not to exceed 216,000 metric tons until such a time that ecological reference points are utilized for Atlantic menhaden management.** Motion made by Mr. Estes and seconded by Mr. Woodward.

**Motion to Substitute**

**Move to substitute to set a total allowable catch of 240,000 metric tons for 2018 and 2019.** Motion made by Mr. Nowalsky and seconded by Mr. Bush. Motion fails (4 in favor, 14 opposed).

**Main Motion**

**Move to set a total allowable catch not to exceed 216,000 metric tons until such a time that ecological reference points are utilized for Atlantic menhaden management.** Motion made by Mr. Estes and seconded by Mr. Woodward.

**Motion to Substitute**

**Move to substitute to set a total allowable catch not to exceed 220,000 metric tons for 2018 and 2019 or until menhaden-specific ecological reference points are available for management use, whichever is first.** Motion made by Mr. Bush and seconded by Ms. Dean. Motion fails (Roll Call: In Favor – NJ, DE, MD, PRFC, VA; Opposed – ME, NH, MA, RI, CT, NY, PA, NC, SC, GA, FL, NOAA Fisheries, USFWS).

**Main Motion**

**Move to set a total allowable catch not to exceed 216,000 metric tons until such a time that ecological reference points are utilized for Atlantic menhaden management.** Motion made by Mr. Estes and seconded by Mr. Woodward. Motion substituted.

**Motion to Substitute**

**Move to substitute to set a total allowable catch not to exceed and be set at 216,000 metric tons for 2018 and 2019 or unless menhaden-specific ecological reference points are available for management use.** Motion made by Ms. Dean and seconded by Mr. Train. Motion passes (Roll Call: In Favor – ME, NH, CT, NJ, DE, MD, PRFC, VA, NC, NOAA Fisheries, USFWS; Opposed – MA, RI, NY, PA, SC, GA, FL).

**14. Move to limit debate.**

Motion made by Mr. Abbott and second by Mr. Lustig. Motion carries without objection.

### **Main Motion as Substituted**

**Main Motion: Move to set a total allowable catch not to exceed and be set at 216,000 metric tons for 2018 and 2019 or unless menhaden-specific ecological reference points are available for management use.** Motion passes (Roll Call: In Favor – ME, NH, MA, CT, NY, NJ, DE, MD, PRFC, VA, NC, SC, GA, NOAA Fisheries, USFWS: Opposed – RI, PA, FL).

### **Main Motion**

**Move to choose the following options in Draft Amendment 3:**

- **Section 4.3.2 Allocation Method Option C: Jurisdictional Allocation with Minimum Base Allocation with a 0.75% fixed minimum; Quota Timeframe 2012-2016**
- **Section 4.3.3 Quota Transfers Option A: Quota Transfers Permitted**
- **Section 4.3.4 Quota Rollover Option A: Unused Quota May Not Be Rolled Over**

Motion made by Mr. Keliher and seconded by Mr. White.

### **Motion to Amend**

**Move to amend to section 4.3.2 Allocation method Option C “with a 1% fixed minimum.”**

Motion made by Mr. Hasbrouck and seconded Ms. Meserve. Motion fails (6 in favor, 10 opposed, 2 abstentions).

### **Motion to Amend**

**Move to amend to substitute the first bullet with “Option F under Section 4.3.2: Allocation based on TAC level.”**

Motion made by Mr. O’Reilly and second by Mr. Bush. Motion fails (1 in favor, 15 opposed, 2 abstentions).

### **Main Motion**

**Move to choose the following options in Draft Amendment 3:**

- **Section 4.3.2 Allocation Method Option C: Jurisdictional Allocation with Minimum Base Allocation with a 0.75% fixed minimum; Quota Timeframe 2012-2016**
- **Section 4.3.3 Quota Transfers Option A: Quota Transfers Permitted**
- **Section 4.3.4 Quota Rollover Option A: Unused Quota May Not Be Rolled Over**

Motion made by Mr. Keliher and seconded by Mr. White. Motion passes (14 in favor, 2 opposed, 2 abstentions).

**Move to bring the tabled motion back for consideration by the Board.**

Motion made by Mr. Nowalsky and seconded by Mr. Hasbrouck. Motion passes.

### **Main Motion**

**Move that if the fixed minimum option is selected the following conditions would govern the activity:**

**At the start of each fishing year and no later than January 31<sup>st</sup>, states must declare if they want to participate in the fixed minimum program.**

**States have the option to opt -out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds for bycatch purposes and decline the remainder of their quota. States also have the right to opt-in to the program and receive their full allocation. In declaring its intent to receive its**

fixed minimum quota, a state can also chose to receive all, or part, of this amount. If a jurisdiction declines its full allocation it must specifically identify the amount requested. States which opt-in must demonstrate that the state has the intent and ability to commercially harvest some, or all, of its menhaden quota for a directed or bycatch fishery. This can be demonstrated through the issuance of permits for applicable gear types or species, historic landings, or the abundance of menhaden in state and/or federal waters. Any quota that is not received by a state is re-distributed to the other jurisdictions based on historic landings from the time-period selected by the Board in this Amendment. Motion made by Mr. Keliher and seconded by Mr. White.

#### **Motion to Substitute**

Move to substitute that “at the start of each fishing year and no later than January 31<sup>st</sup>, states may declare if they want to opt-out of the fixed minimum program.

States may declare to opt-out of the program and decline all or part of their fixed minimum allocation. If a jurisdiction declines part of their allocation it must specifically identify the amount they do not wish to receive. Any quota that is not received by a state is re-distributed to the other jurisdictions based on historic landings from the time-period selected by the Board in this Amendment.”

Motion made by Mr. Nowalsky and seconded by Dr. Duval. Motion fails (2 in favor, 14 opposed, 2 abstentions).

#### **Main Motion**

Move that if the fixed minimum option is selected the following conditions would govern the activity:

At the start of each fishing year and no later than January 31<sup>st</sup>, states must declare if they want to participate in the fixed minimum program.

States have the option to opt -out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds for bycatch purposes and decline the remainder of their quota. States also have the right to opt-in to the program and receive their full allocation. In declaring its intent to receive its fixed minimum quota, a state can also chose to receive all, or part, of this amount. If a jurisdiction declines its full allocation it must specifically identify the amount requested. States which opt-in must demonstrate that the state has the intent and ability to commercially harvest some, or all, of its menhaden quota for a directed or bycatch fishery. This can be demonstrated through the issuance of permits for applicable gear types or species, historic landings, or the abundance of menhaden in state and/or federal waters. Any quota that is not received by a state is re-distributed to the other jurisdictions based on historic landings from the time-period selected by the Board in this Amendment.

Motion made by Mr. Keliher and seconded by Mr. White. Motion fails (7 in favor, 9 opposed, 2 abstentions).

#### **Move to reconsider the allocation method.**

Motion made by Mr. Boyles and seconded by Mr. Miller. Motion passes (11 in favor, 7 opposed).

#### **Move to select:**

- **Section 4.3.2 Allocation Method: Option C, Jurisdiction Allocation with a Fixed Minimum with a 0.5% fixed minimum; Allocation Timeframe: 2009-2011**

- **Section 4.3.3 Quota Transfers Option A: Quota Transfers Permitted**
- **Section 4.3.4 Quota Rollover Option A: Unused Quota May Not Be Rolled Over**
- **Section 4.3.5 Incidental Catch and Small Scale Fisheries: Option B, modified to include purse seines smaller than 150 fathom long by 8 fathom deep would be considered small scale gear.**
- **Section 4.3.6 Episodic Events Option A: 1% Set Aside**

Motion made by Mr. Boyles and seconded by Mr. Bush. Motion passes (Roll Call: In Favor – ME, NH, CT, NY, PA, DE, MD, PRFC, NC, SC, GA, FL; Opposed – MA, RI, NJ, VA; Abstentions – NOAA Fisheries, USFWS).

**Main Motion**

**Move to select under Section 4.3.7: Chesapeake Bay Reduction Fishery Cap, Option A: Cap set at 87,216 metric tons, and sub-option A: limited rollover of unused cap permitted up to 10,976 metric tons.**

Motion made by Mr. O’Reilly and seconded by Mr. Nowalsky. Motion substituted.

**Motion to Substitute**

**Move to substitute to select Option B: cap set at 51,000 metric tons and sub-option B: no rollover of unused cap permitted.**

Motion made by Dr. Colden and seconded by Mr. McMurray. Motion passes (Roll Call: In Favor – ME, NH, MA, RI, CT, NY, PA, DE, MD, PRFC, NC, SC, GA, FL; Opposed – NJ, VA; Abstentions – NOAA Fisheries, USFWS).

**Main Motion as Substituted**

**Move to select Option B: cap set at 51,000 metric tons and sub-option B: no rollover of unused cap permitted.**

Motion passes (Roll Call: In Favor – ME, NH, MA, RI, CT, NY, PA, DE, MD, PRFC, NC, SC, GA, FL; Opposed – NJ, VA; Abstentions – NOAA Fisheries, USFWS).

**Move that states must declare any relinquished quota by December 1<sup>st</sup> of the previous year. States have the ability to declare how much of their quota to relinquish. Any quota that is relinquished by a state is redistributed to the other jurisdictions based on historic landings from the time period selected by the Board in this Amendment.**

Motion made by Mr. Keliher and second by Mr. Borden. Motion passes (16 in favor, 2 abstentions).

**Main Motion**

**Move that states implement the provisions of Amendment 3 by January 1, 2018.**

Motion made by Mr. Fote and seconded by Mr. Lustig. Motion amended.

**Motion to Amend**

**Move to amend that states submit implementation plans for Amendment 3 by January 1, 2018, and implement by April 15, 2018.**

Motion made by Mr. Boyles and seconded by Mr. Gilmore. Motion adopted by consent.

**Main Motion as Amended**

**Move to amend that states submit implementation plans for Amendment 3 by January 1, 2018, and implement by April 15, 2018.**

Motion adopted by consent.



**Move to recommend to the Commission the approval of Amendment 3 to the Atlantic Menhaden Interstate Fishery Management Plan as amended today.**

Motion made by Mr. Boyles and seconded by Mr. Estes. Motion passes (Roll Call: In Favor – ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, PRFC, NC, SC, GA, FL, NOAA Fisheries, USFWS; Opposed – VA).

**Move to elect Nichola Meserve as Vice-Chair of the Atlantic Menhaden Board.**

Motion made by Mr. Boyles and seconded by Mr. Lustig. Motion passes without objection.

**BUSINESS SESSION (NOVEMBER 14, 2017)**

*Press Releases*

**ASMFC Approves Amendment 3 to the Interstate Fishery Management Plan for Atlantic Menhaden**  
***Atlantic Menhaden Board Sets TAC at 216,000 MT for 2018 and 2019***

Linthicum, MD – The Atlantic States Marine Fisheries Commission approved Amendment 3 to the Interstate Fishery Management Plan (FMP) for Atlantic Menhaden. The Amendment maintains the management program’s current single-species biological reference points until the review and adoption of menhaden-specific ecological reference points as part of the 2019 benchmark stock assessment process. It also addresses a suite of commercial management measures including allocation, quota transfers, quota rollovers, incidental catch, the episodic events set aside program, and the Chesapeake Bay reduction fishery cap.

In addition to its Amendment 3 deliberations, the Board set the total allowable catch for the 2018 and 2019 fishing seasons at 216,000 metric tons with the expectation that the setting of the TAC for subsequent years will be guided by menhaden-specific ecological reference points.

“Through adoption of Amendment 3 and the setting of the 2018 and 2019 TAC at a risk-averse level, the Board has demonstrated its continued commitment to manage the menhaden resource in a way that balances menhaden’s ecological role with the needs of its stakeholders,” stated Board Chair Robert Ballou of Rhode Island. “While the Amendment maintains the current reference points, the Board placed the development of menhaden-specific ecological reference points as its highest priority. While the Board’s action was not supported by the majority of public comment received, it is still a conservative management action relative to our understanding of stock status and many of the positive signals we see in the current stock conditions. Specifically, the 2017 Stock Assessment Update indicated the resource remains healthy, with increases in abundance particularly in the norther states. Risks to the resource under our current reference points are well understood, while changes to the TAC under the general forage fish guidelines are not as well understood. Further, the approved TAC, which represents a modest 8% increase in the coastwide quota, has zero percent chance of subjecting the resource to overfishing or causing it to be overfished.”

Amendment 3 also changes fishery allocations in order to strike an improved balance between gear types and jurisdictions. The Amendment allocates a baseline quota of 0.5% to each jurisdiction, and

then allocates the rest of the TAC based on historic landings between 2009 and 2011 (see table below). This measure provides fishing opportunities to states which currently have little quota while still recognizing historic landings in the fishery. The Board also agreed to maintain the quota transfer process, prohibit the rollover of unused quota, maintain the 6,000 lb trip limit for non-directed and small-scale gears following the closure of a directed fishery, and set aside 1% of the TAC for episodic events in the states of New York through Maine.

“The Board worked collaboratively and effectively to forge an outcome that is fair and responsive to the needs and interests of all East Coast states,” said Chair Ballou.

**Table 1. Amendment 3 allocation percentages based on a 0.5% fixed minimum during the 2009-2011 timeframe.**

<b>State</b>	<b>Allocations (%)</b>
<b>Maine</b>	0.52%
<b>New Hampshire</b>	0.50%
<b>Massachusetts</b>	1.27%
<b>Rhode Island</b>	0.52%
<b>Connecticut</b>	0.52%
<b>New York</b>	0.69%
<b>New Jersey</b>	10.87%
<b>Pennsylvania</b>	0.50%
<b>Delaware</b>	0.51%
<b>Maryland</b>	1.89%
<b>Potomac River Fisheries Commission</b>	1.07%
<b>Virginia</b>	78.66%
<b>North Carolina</b>	0.96%
<b>South Carolina</b>	0.50%
<b>Georgia</b>	0.50%
<b>Florida</b>	0.52%
<b>Total</b>	100%

Finally, the Amendment reduces the Chesapeake Bay cap, which was first implemented in 2006 to limit the amount of reduction harvest within the Bay, to 51,000 mt from 87,216 mt. This recognizes the importance of the Chesapeake Bay as nursery grounds for many species by capping recent reduction landings from the Bay to current levels.

States must submit implementation plans to the Commission by January 1, 2018 for final implementation by April 15, 2018. The Amendment will be available on the Commission’s website, [www.asmfc.org](http://www.asmfc.org), by the end of November. For more information, please contact Megan Ware, Fishery Management Plan Coordinator, at [mware@asmfc.org](mailto:mware@asmfc.org) or 703.842.0740.

## **ASMFC Approves Interstate FMP for the Atlantic Migratory Group Cobia**

Linthicum, MD – The Atlantic States Marine Fisheries Commission approved the Interstate Fishery Management Plan (FMP) for Atlantic Migratory Group (AMG). The FMP complements many of the aspects of the South Atlantic Fishery Management Council’s (SAFMC) cobia regulations for federal waters extending from Georgia through New York. The FMP was initiated in response to recent overages of the federal annual catch limit (ACL) for AMG Cobia. Managing the recreational ACL on a coastwide basis has resulted in federal closures and significant overages in 2015 and 2016, disrupting fishing opportunities and jeopardizing the health of the stock.

Under the Interstate FMP, the recreational fishery will be managed with a one fish bag limit and minimum size limit of 36” fork length (FL) or total length equivalent. Vessel limits will be determined once individual states set their seasonal restrictions, but may not exceed six fish per vessel. State-specific allocations of a coastwide recreational harvest limit that is equivalent to the federal AMG cobia ACL of 620,000 pounds result in the following state-specific soft targets:

- Georgia: 58,311 pounds
- South Carolina: 74,885 pounds
- North Carolina: 236,316 pounds
- Virginia: 244,292 pounds

Recreational harvest overages of specific-state allocations will be evaluated over a three-year time period. If overages occur, states will be required to adjust management measures to reduce harvest in the subsequent three-year period.

The commercial fishery will maintain the current management measures as implemented through the SAFMC FMP and continue to be managed with a 33” FL minimum size limit and two fish limit per person, with a six fish maximum vessel limit. The federal ACL of 50,000 pounds is allocated to the entire commercial fishery from Georgia through New York. The commercial AMG cobia fishery will close once the ACL is projected to be reached.

The FMP provides the opportunity for states to declare *de minimis* status for their recreational fishery if landings constitute less than 1% of the recreational AMG cobia harvest. States must submit implementation plans to the Commission by January 1, 2018 for Technical Committee review and Board approval at the February 2018 meeting in Alexandria, Virginia. Approved plans must be implemented by April 1, 2018. For more information, please contact Dr. Louis Daniel, Fishery Management Plan Coordinator, at [ldaniel@asmfc.org](mailto:ldaniel@asmfc.org) or 252.342.1478.

###

PR17-58

### **Motions**

On behalf of the Menhaden Board, I move the Commission approve Amendment 3 to the Atlantic Menhaden Interstate Fishery Management Plan as amended today.

Motion made by Mr. Ballou. Motion passes (Roll Call: In Favor – ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, NC, SC, GA, FL; Opposed – VA).

**On behalf of the South Atlantic Board, I move the Commission approve the Cobia Interstate Fishery Management Plan.**

Motion made by Mr. Estes. Motion carries unanimously (Roll Call: In Favor – ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, NC, SC, GA, FL; Opposed – VA).

# ***Atlantic States Marine Fisheries Commission***

## **Amendment 3 to the Interstate Fishery Management Plan for Atlantic Menhaden**



**November 2017**

***Vision: Sustainably Managing Atlantic Coastal Fisheries***

Amendment 3 to the Interstate Fishery Management Plan for  
Atlantic Menhaden

Prepared by

Atlantic States Marine Fisheries Commission  
Atlantic Menhaden Plan Development Team

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This is a report of the Atlantic States Marine Fisheries Commission pursuant to U.S. Department of Commerce, National Oceanic and Atmospheric Administration Award No. NA15NMF4740069.



## EXECUTIVE SUMMARY

### Statement of the Problem

At its May 2015 meeting, the Atlantic Menhaden Management Board (Board) initiated the development of Amendment 3 to the Atlantic Menhaden Fishery Management Plan (FMP) to pursue the development of ecological reference points (ERPs) and revisit allocation methods.

### Management Unit

The management unit for Amendment 3 is defined as the range of Atlantic menhaden within U.S. waters of the Northwest Atlantic Ocean, from the estuaries eastward to the offshore boundary of the Exclusive Economic Zone (EEZ). For the purposes of this Amendment, the term “state” or “states” also includes the Potomac River Fisheries Commission.

### Description of Resource

Atlantic menhaden inhabit nearshore and inland tidal waters from Florida to Nova Scotia, Canada. Spawning occurs principally at sea. Eggs hatch at sea and the larvae are transported to estuaries where they grow rapidly as juveniles. Adults stratify by size during the summer, with older, larger individuals migrating north to New England and the Gulf of Maine and then south to Virginia and North Carolina by the fall. Adults that remain in the south Atlantic region during spring and summer migrate south later in the year, reaching northern Florida by fall.

Menhaden serve an important role in the marine ecosystem as they convert phytoplankton into protein and, in turn, provide a food source to a variety of species including larger fish (e.g., weakfish, striped bass, bluefish, cod), birds (e.g., bald eagles, osprey), and marine mammals (e.g., humpback whales, bottlenose dolphin). As a result, changes in the abundance of menhaden may have implications for the marine ecosystem.

### Description of Fishery

Atlantic menhaden have supported one of the United States' largest fisheries since colonial times. The current commercial fishery is divided into the reduction fishery and the bait fishery (menhaden harvested to supply bait to other commercial and recreational fisheries). The reduction fishery processes menhaden to obtain fish oil and fish meal which is then used to produce a wide range of products. Reduction landings averaged 371,980 metric tons (mt) from 1940-1980, but only averaged 246,804 mt from 1980-2016. In 2016, reduction landings were 137,400 mt. Menhaden are used as bait in several valuable commercial fisheries, particularly the blue crab fishery of the Chesapeake Bay and the Atlantic lobster fishery. Reported bait landings averaged 35,314 mt from 1985-2016; however, bait landings have been increasing in recent years. In 2016, coastwide bait landings were 43,950 mt. Recreational harvest is not well captured by the Marine Recreational Information Program because there is not a known identified direct harvest for menhaden, other than for bait.

### Goals and Objectives

The goal of Amendment 3 is to manage the Atlantic menhaden fishery in a manner which equitably allocates the resource's ecological and economic benefits between all user groups.

The primary user groups include those who extract and utilize menhaden for human use, those who extract and utilize predators which rely on menhaden as a source of prey, and those whose livelihood depends on the health of the marine ecosystem.

### **Reference Points**

The Atlantic menhaden stock is managed with single-species reference points, based on the maximum and median geometric mean fishing mortality rate for ages 2-4 during 1960-2012, while the Biological Ecological Reference Points (BERP) Workgroup continues to develop menhaden-specific ERPs. Using the single-species reference points, the 2017 Stock Assessment Update found the fishing mortality target and threshold for Atlantic menhaden to be  $F_{36\%MSP}$  and  $F_{21\%MSP}$  and the corresponding fecundity target and threshold for Atlantic menhaden to be  $FEC_{36\%MSP}$  and  $FEC_{21\%MSP}$ . As of 2016, the terminal year of the 2017 Stock Assessment Update, the stock is not overfished and overfishing is not occurring.

### **Monitoring Program Specifications**

*Quota Monitoring* – At a minimum, states are required to maintain the timely quota monitoring system implemented under Amendment 2 in order to cap menhaden directed harvest within the total allowable catch (TAC) and minimize the potential for overages. For the reduction fishery, harvest is reported through Captains Daily Fishing Reports (CDFRs).

*Biological Data Collection* – Each state in the New England (ME, NH, MA, RI, CT) and Mid-Atlantic (NY, NJ, DE) regions are required to collect one 10-fish sample (age and length) per 300 mt landed for bait purposes. Each state in the Chesapeake Bay (MD, PRFC, VA) and South Atlantic (NC, SC, GA, FL) regions are required to collect one 10-fish sample (age and length) per 200 mt landed for bait purposes. In addition, each state with a pound net fishery must collect catch and effort data elements for Atlantic menhaden including total pounds (lbs.) landed per day and number of pound nets fished per day.

### **Recreational Fisheries Management Measures**

No management measures for the recreational fisheries are included in this Amendment.

### **For-Hire Fisheries Management Measures**

No management measures for the for-hire fisheries are included in this Amendment.

### **Commercial Fishery Management Measures**

*Total Allowable Catch Specification and Setting* – The TAC will be set through Board action either on an annual basis or for multiple years with annual review. The Board will set the TAC based on the best available science (e.g., projection analysis), but if the projections are not recommended for use by the Technical Committee (TC), the Board will set a TAC based on the ad-hoc approach used by the Regional Fishery Management Councils (ORCS 2011).

For the 2018 and 2019 fishing years, the Board implemented a TAC of 216,000 mt based on projection analysis.



*Quota Allocation* – The Atlantic menhaden commercial TAC is managed with jurisdictional quotas. Each jurisdiction is allocated a 0.5% fixed minimum quota and the remainder of the TAC is allocated based on a three-year average of historic landings from 2009-2011, as shown below:

State	Allocation (%)
ME	0.52%
NH	0.50%
MA	1.27%
RI	0.52%
CT	0.52%
NY	0.69%
NJ	10.87%
PA	0.50%
DE	0.51%
MD	1.89%
PRFC	1.07%
VA	78.66%
NC	0.96%
SC	0.50%
GA	0.50%
FL	0.52%
<b>TOTAL</b>	<b>100.00%</b>

On an annual basis, states have the option to relinquish part or all of their fixed minimum quota. Any quota that is relinquished by a state will be redistributed to the other jurisdictions (i.e., those which have not relinquished quota) based on historic landings from 2009-2011.

*Quota Transfers, Rollovers, and Payback* – Two or more states, under mutual agreement, may transfer or combine their Atlantic menhaden quota. Once quota has been transferred to a state, the state receiving quota becomes responsible for any overages of transferred quota. The rollover of unused quota to the subsequent year is not permitted. Any overage of a state’s quota is subtracted from that specific state’s quota in the subsequent fishing year on a pound for pound basis.

*Incidental Catch and Small-Scale Fisheries* – After a quota allocation is met for a given jurisdiction, the fishery becomes an incidental catch fishery in which small-scale gears and non-directed gear types may land up to 6,000 lbs. of menhaden per trip per day. Two authorized individuals, working from the same vessel fishing stationary multi-species gear, are permitted to work together and land up to 12,000 lbs. from a single vessel – limited to one vessel trip per day.

*Episodic Events Set Aside* – 1% of the overall TAC is set aside for episodic events in the states of New York through Maine. In order for an eligible state to participate in the episodic events set aside program, states must implement the following provisions: 1) daily trip level harvester reporting; 2) restrict episodic events harvest and landings to state waters of the jurisdiction

approved to participate in the set aside; and 3) implement a maximum daily trip limit no greater than 120,000 lbs./vessel.

*Chesapeake Bay Reduction Fishery Cap* - The annual total allowable harvest from the Chesapeake Bay by the reduction fishery is limited to no more than 51,000 mt. Harvest above the cap in any given year will be deducted from the next year's allowable harvest. Any amount of un-landed fish under the cap cannot be rolled over into the subsequent year. As a result, the cap in a given year cannot exceed 51,000 mt.

### **Habitat Conservation and Restoration Recommendations**

In order to ensure the productivity of populations, each state should identify and protect critical nursery areas within its boundaries for estuarine dependent, marine migratory species in general and Atlantic menhaden in particular. Such efforts should inventory historical habitats, identify habitats presently used and specify those that are targeted for recovery, and impose or encourage measures to retain or increase the quantity and quality of Atlantic menhaden essential habitats.

### ***De minimis***

A state can apply annually for *de minimis* status if a state does not have a reduction fishery. To be eligible for *de minimis* consideration in the bait fishery, a state must prove that its commercial bait landings in the most recent two years for which data are available did not exceed 1% of the coastwide bait landings. States granted *de minimis* status are exempt from collecting biological data and the adult catch per unit effort index data.

### **Implementation Schedule**

States are required to submit implementation plans by January 1, 2018 and are required to implement the provisions of Amendment 3 by April 15, 2018.

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## **1.0 INTRODUCTION**

The Atlantic States Marine Fisheries Commission (ASMFC or Commission), under the authority of the Atlantic Coastal Fisheries Cooperative Management Act, is responsible for managing Atlantic menhaden (*Brevoortia tyrannus*) from Maine through Florida. ASMFC has coordinated the interstate management of Atlantic menhaden in state waters (0-3 miles) since 1981. Amendment 3 to the Interstate Fishery Management Plan (FMP) for Atlantic menhaden replaces Amendment 2 (ASMFC, 2013). Management authority in the Exclusive Economic Zone (3-200 miles from shore) lies with NOAA Fisheries.

### **1.1 BACKGROUND INFORMATION**

At its May 2015 meeting, the Atlantic Menhaden Management Board (Board) initiated the development of Amendment 3 to pursue the development of ecological reference points (ERPs) and revisit allocation methods. The Board approved the Amendment 3 Public Information Document for public comment in October 2016. Public comment was received and hearings were held between December 2016 and January 2017. At its February 2017 meeting, the Board tasked the Plan Development Team (PDT) with developing Draft Amendment 3. The Board approved Draft Amendment 3 for public comment in August 2017 and public comment was received through October 24<sup>th</sup>. The Board met on November 13 & 14, 2017 to take final action on Amendment 3.

#### **1.1.1 Statement of Problem**

##### **1.1.1.1 Reference Points**

Amendment 2 established single-species reference points to manage the menhaden stock. These reference points were based on maximum spawning potential (MSP) and included a measure of fishing mortality (F) and spawning stock biomass (SSB) to determine an overfishing and overfished status. Per Amendment 2, overfishing was defined by a target and threshold of  $F_{30\%MSP}$  and  $F_{15\%MSP}$ , respectively, while an overfished stock was defined by a target and threshold of  $SSB_{30\%MSP}$  and  $SSB_{15\%MSP}$ , respectively.

In 2015, the Board approved the Atlantic Menhaden Benchmark Stock Assessment, which updated the reference points for Atlantic menhaden in order to provide a better measure of sustainability (SEDAR, 2015). Specifically, the reference points were changed to be the maximum and median geometric mean F for ages 2-4 during 1960-2012, a period deemed sustainable. Corresponding reference points based on fecundity (FEC) were also established to determine an overfished status. This method was applied to the 2017 Stock Assessment Update. Resulting reference points were an overfishing threshold and target of  $F_{21\%}$  and  $F_{36\%}$ , respectively, and an overfished threshold and target of  $FEC_{21\%}$  and  $FEC_{36\%}$ , respectively. As of 2016, the terminal year used in the 2017 Stock Assessment Update, the stock is not overfished and overfishing is not occurring.

An important outcome of the 2015 Benchmark Stock Assessment and Peer Review Report was the high priority given to the development of ERPs for Atlantic menhaden management. Menhaden serve an important role in the marine ecosystem as they convert phytoplankton into protein and, in turn, provide a food source to a variety of species including larger fish (e.g., weakfish, striped bass, bluefish, cod), birds (e.g., bald eagles, osprey), and marine mammals (e.g., humpback whales, bottlenose dolphin). As a result, changes in the abundance of menhaden may have implications for the marine ecosystem. ERPs provide a method to assess the status of menhaden not only with regard to the sustainability of human harvest, but also with regard to their interactions with predators and the status of other prey species. This method accounts for several species' menhaden predation requirements when setting an overfished and overfishing threshold for menhaden. The benefit of this approach is that it allows fishery managers to consider the harvest of menhaden within a broad ecosystem context, which includes other fish, birds, mammals, and humans who utilize and depend on marine resources.

#### ***1.1.1.2 Quota Allocation***

Amendment 2 established a first-ever commercial total allowable catch (TAC) for Atlantic menhaden and divided this catch into commercial quotas for participating jurisdictions from Maine through Florida. The allocation formula assigns each state a percentage of the TAC based on the jurisdiction's average landings between 2009 and 2011. Since it was implemented in 2013, the quota system has maintained the annual directed harvest of menhaden below the annual coastwide TAC set by the Board.

Amendment 2 required allocation to be revisited every three years. In reviewing menhaden allocations, the Board expressed interest in investigating different allocation methods and timeframes given concerns the current approach may not strike a balance between gear types and regions. Specifically, some states expressed concern that under the Amendment 2 allocation method, increases in the TAC resulted in limited benefits to small-scale fisheries. In addition, there was concern the Amendment 2 allocation method did not provide a balance between the present needs of the fishery and future growth opportunities. Given the apparent geographic expansion of the stock, particularly in New England, the 2009-2011 time-period on which allocation was based limited states who had minimal quota from participating in the growing fishery. Some states also found evidence of un-reported landings during the reference period, meaning the quota system may have reduced their fisheries to a greater extent than originally intended.

#### **1.1.2 Benefits of Implementation**

Amendment 3 is designed to consider the ecological role of menhaden in regards to management of the species and establish an allocation method which provides fair and equitable access to all participants in the fishery.



Amendment 3 contains a management program designed to account for the multiple roles menhaden play, both in supporting fisheries for human use and the marine ecosystem. Issues addressed in Amendment 3 include:

1. Reference Points: How menhaden are allocated between the marine ecosystem and those that harvest menhaden for human use.
2. Allocation Method: How menhaden are allocated between those jurisdictions and fisheries which directly or indirectly harvest menhaden.
3. Allocation Timeframe: The timeframe upon which the allocation method is based.
4. Quota Transfers: How menhaden quota is moved between those stakeholders which receive an allocation.
5. Quota Rollovers: Whether unused quota can be rolled over into the subsequent fishing year.
6. Incidental Catch: How landings from non-directed and small scale fisheries are accounted for in the management of the species.
7. Episodic Events Program: Whether there is a program designed to minimize discards in the fishery when menhaden are in greater abundance than they normally occur.
8. Chesapeake Bay Reduction Fishery Cap: Whether there is a cap which limits harvest by the reduction fishery in the Chesapeake Bay, an important nursery ground for menhaden.

#### **1.1.2.1 Ecological Benefits**

Atlantic menhaden occupy an important link in the coastal marine food chain as they transfer planktonic material into animal biomass. Due to their interconnectivity with other species, menhaden help to provide top-down controls on phytoplankton and zooplankton populations while supporting a variety of predator species. These predators include important commercial and recreational species such as striped bass and weakfish, iconic birds such as osprey and bald eagles, and charismatic marine mammals such as the humpback whale. Reduced menhaden populations may impact the abundance and diversity of predator populations, particularly if other prey options are limited or not available. Given menhaden are found from Maine to Florida, the species serves an ecological role along much of the Atlantic coast. Thus, maintaining a healthy Atlantic menhaden population contributes to a balanced marine ecosystem (see *Section 1.2.1.5 Ecological Roles* for additional information).

#### **1.1.2.2 Social/Economic Benefits**

Menhaden play an important ecological role while supporting valuable and culturally significant commercial fisheries. Incorporating ecological reference points into menhaden management may provide ancillary benefits to a wide variety of coastal stakeholders who value species which depend on menhaden as a food source. Establishing quota allocation methods that provide fair and equitable access to all fishery participants may enhance social and economic benefits by increasing derived value and stabilizing economic returns. This in turn improves resilience in fishery-dependent communities along the Atlantic coast.

## **1.2 DESCRIPTION OF THE RESOURCE**

### **1.2.1 Species Life History**

#### **1.2.1.1 Stock Structure and Migration**

Atlantic menhaden is a euryhaline species (i.e. tolerates a wide range of salinity) that inhabits nearshore and inland tidal waters from Florida to Nova Scotia, Canada. Size-frequency information and tagging studies indicate that the Atlantic menhaden resource is a single unit stock (Dryfoos et al., 1973; Nicholson, 1972; Nicholson, 1978). Recent genetic studies also support the designation of Atlantic menhaden as a single stock (Anderson, 2007; Lynch et al., 2010).

Spawning occurs principally at sea, with some activity in bays and sounds in the northern portion of its range (Judy and Lewis, 1983). Eggs hatch at sea and the larvae are transported by ocean currents (Checkley et al., 1988; Nelson et al., 1977; Quinlan et al., 1999) to estuaries where they metamorphose and grow rapidly as juveniles (Edwards, 2009). Adults stratify by size during the summer, with older and larger individuals migrating farthest, reaching Narragansett Bay by May and the Gulf of Maine by June. During November and December, most of the adult population moves south to the Virginia and North Carolina capes. Adults that remain in the south Atlantic region during spring and summer migrate further south later in the year, reaching northern Florida by fall. Schools of adult menhaden reassemble in late March or early April and migrate northward. By June the population is redistributed from Florida to Maine (Ahrenholz, 1991).

#### **1.2.1.2 Age and Growth**

During the 1950s and early 1960s, Atlantic menhaden older than age-6 were present in the spawning population; however, fish older than age-6 have been uncommon in recent years. Today, the majority of the landings are comprised of fish ages 1-4 (SEDAR, 2015).

The growth of Atlantic menhaden varies from year-to-year and occurs primarily during the warmer months (AMTC, 2006). Growth of juveniles is density-dependent (Ahrenholz et al., 1987) such that growth rates are accelerated during the first year when juvenile abundance is low and are reduced when juvenile abundance is high. Lengths of young-of-year menhaden range in size, and this variation is a function of density, timing of larval ingress, temperature, and food availability (Ahrenholz, 1991; Houde, 2011). Adult menhaden can reach a total length of up to 500 mm and a weigh over 1.5 kg (Cooper, 1965; SEDAR, 2015; Smith and O'Bier, 1996). Due to their extensive migratory range (see *Section 1.2.1.1*), larger fish of a given age are captured farther north than smaller fish of the same age (Nicholson, 1978; Reish et al., 1985). This fact complicates attempts to estimate overall growth for the entire stock from size-at-age data compiled from a single area along the coast.

#### **1.2.1.3 Spawning and Reproduction**

Some Atlantic menhaden become sexually mature during their first year, with more than 50% mature at age-2 (SEDAR, 2015). First-spawning age-3 fish have accounted for most of the stock's egg production since 1965 (Vaughan and Smith, 1988). Atlantic menhaden mature at

smaller sizes at the southern end of their range (180 mm FL in the south Atlantic versus 210 mm FL in the Chesapeake Bay and 230 mm farther north) because of latitudinal differences in size-at-age and the fact that larger fish of a given age are distributed farther north than smaller fish of the same cohort (Lewis et al., 1987).

Spawning of Atlantic menhaden is thought to occur throughout the year (Higham and Nicholson, 1964); however, it varies by season and region based on migration patterns. Spawning in the north occurs in the summer months (Judy and Lewis, 1983; Kendall and Reintjes, 1975; Lozano and Houde, 2012), spawning in the Mid-Atlantic occurs in early fall, and peak spawning in the South Atlantic Bight occurs in December (Higham and Nicholson, 1964; Judy and Lewis, 1983; Lozano and Houde, 2012). Spawning is followed by the coastward dispersion of eggs and larvae, and ingress into estuaries where juvenile development occurs (Houde et al., 2016; Lozano and Houde, 2013; Rice et al., 1999; SABRE, 1999; Warlen, 1994; Warlen et al., 2002).

Timing and location of spawning seem to be limited by temperature, usually occurring in waters warmer than 14-16°C (Stegmann et al. 1999, Light and Able, 2003), or within the 15-20°C isotherms (MDSG 2009). Hall et al. (1991) report that temperatures below 5°C or above 33°C are lethal to larvae. Based on a review of field and laboratory studies, Warlen et al. (2002) concluded that optimum temperature for hatching, larval survival, and growth is  $\geq 16^\circ\text{C}$ . Reported salinities range from ~25 to 33 (MDSG 2009), although salinity tolerances for eggs and larvae are wide ranging. Available literature has not been summarized to indicate typical or persistent locations of continental shelf spawning areas but egg concentrations have been observed near shorelines, bay mouths, inlets, and 70 to 140 km offshore (Judy and Lewis 1983; Kendall and Reintjes, 1975; Marak et al., 1962).

Recently, there has been progress in relating measures of primary productivity to recruitment and growth of young-of-year (YOY) menhaden. Research has shown there is a positive correlation between recruitment and euphotic-zone *chl-a* and integrated annual primary production in the Chesapeake Bay (Houde and Harding, 2009), suggesting that menhaden populations are controlled in part by bottom-up processes (i.e., quantity of food available). Despite these findings, additional work has found no significant correlation between YOY menhaden abundance and *chl-a* for the entire four-decade period that included times of both low and high menhaden recruitment events in Chesapeake Bay. The strong correlation between YOY menhaden abundance and *chl-a* in recent years (1989-2004) as noted above did not persist throughout the longer time series (1966-2006). On average, years with low freshwater flow and low turbidity supported higher abundances and recruitment of YOY menhaden (Houde et al., 2016; Love et al., 2006; Lynch et al., 2010). Other correlations between YOY menhaden abundance and environmental or hydrographic variables were not significant or were only marginally significant (e.g., negative correlations with total dissolved phosphorus and with abundances of zooplankton taxa favored by low salinities). These conflicting bodies of work further highlight the complexity that exists between nutrient cycling, climatic drivers, and understanding the life history traits of Atlantic menhaden.

#### **1.2.1.4 Mortality**

The Atlantic menhaden population is subject to a high natural mortality rate, particularly during the first two years of life. Estimates of natural mortality have ranged from  $M = 0.37$  (Schaaf and Huntsman, 1972) to  $M = 0.52$  (Dryfoos et al., 1985). Previous assessments, beginning with Ahrenholz et al. (1987), used  $M = 0.45$ , whereas the 2015 Benchmark Stock Assessment used a time varying but age constant natural mortality to better account for known sources of natural mortality such as predation, pollution, habitat degradation, toxic algal blooms, and hypoxia (SEDAR, 2015).

Predation remains a large source of natural mortality for menhaden due to their high abundance in estuaries and coastal waters (Ahrenholz, 1991). Many large piscivorous sea mammals, birds, and fish are potential predators of Atlantic menhaden, including bluefish, striped bass, king mackerel, Spanish mackerel, pollock, cod, weakfish, silver hake, tunas, swordfish, bonito, tarpon, and a variety of sharks. See additional details in *Section 1.2.1.5: Ecological Roles*.

Coastal pollution, habitat degradation, and disease also threaten marine fish species such as Atlantic menhaden which spend their first year of life in estuarine waters and the rest of their life in both ocean and estuarine waters. Fish kills, due principally to low dissolved oxygen conditions, disease, and parasites are additional yet poorly understood sources of natural mortality (Burkholder et al., 1992; Blazer et al., 1999; Noga, 2000; Law, 2001; Glasgow et al., 2001; Vogelbein et al., 2001; Kiryu et al., 2002; Reimschuessel et al., 2003; Burkholder et al., 2005). A variety of diseases are thought to affect menhaden survival (Stephens et al., 1980; Noga and Dykstra, 1986; Noga et al., 1988; Levine et al., 1990a; Levine et al., 1990b; Dykstra and Kane, 2000; Goshorn et al., 2004; Stine et al., 2005; Blazer et al., 2007). Menhaden are also known to induce fatal hypoxic events, where reports of such school-induced hypoxia and resulting fish kills going back to the 1800's (Oviatt et al., 1972; Smith, 1999).

#### **1.2.1.5 Ecological Roles**

Menhaden occupy an important link in the coastal marine food chain, transferring planktonic material into animal biomass. As a result, menhaden influence the conversion and exchange of energy and organic matter within the coastal ecosystem throughout their range (Lewis and Peters, 1984; Peters and Lewis, 1984; Peters and Schaaf, 1981). Studies have indicated that menhaden are a part of the diet of many species including striped bass, bluefish, weakfish, and piscivorous birds (Viverette et al. 2007). As a result, changes in the abundance and distribution of menhaden can have impacts on a variety of species given their role in the food web.

Atlantic menhaden occupy two distinct types of feeding niches during their lifetime. Phytoplankton is the major food of juvenile and young adult menhaden. The role of zooplankton in the diet becomes more important in older menhaden as gill-raker spacing on their filtering apparatus increases in size (Friedland et al., 1984; 2006). The relative importance of each food type varies with ontogeny, region, and local availability.

The role of Atlantic menhaden in systems function and community dynamics has received much attention in recent years. Spatially-explicit bioenergetics models have been used to estimate the carrying capacity of menhaden in the Chesapeake Bay as well as the reduction of habitat volume from eutrophication and hypoxia (Brandt and Mason, 2003; Luo et al., 2001). Additionally, simulation models of Narragansett Bay and the Chesapeake Bay indicate that Atlantic menhaden could have substantial effects on zooplankton and phytoplankton populations, and on nutrient dynamics (Durbin and Durbin 1975; 1998; Gottlieb 1998). However, a study by Lynch et al. (2010) suggests that the menhaden population probably plays little role in removing nitrogen from Chesapeake Bay waters, and may actually provide additional nitrogen to Bay phytoplankton. Results suggest that YOY menhaden focus their grazing on patches of elevated phytoplankton abundance and/or supplement their diet with other sources (e.g. zooplankton and detritus) to maintain a positive nitrogen balance. As a result, the study suggests that menhaden may play a minimal role in net nitrogen removal from the Chesapeake Bay.

### **1.2.2 Stock Assessment Summary**

Based on tagging (Dryfoos et al., 1973; Nicholson, 1978) and genetic studies (Anderson, 2007; Lynch, 2010), the Atlantic menhaden fishery is believed to be a single stock or population of fish, and is assessed as a single coastwide stock. Data used in the stock assessment includes commercial and recreational landings at-age from Maine to Florida, two fishery independent adult indices based on nine state surveys, one each for the northern and southern regions, and a juvenile abundance index (JAI) developed from state seine, trawl, and other gear surveys along the coast.

Growth is estimated using a time invariant weight-length relationship based on fishery-dependent data that is bias corrected using the methods in Schueller et al. (2014). Weight at age is estimated from overall weight-length parameters and annual lengths at age. Maturity at age is developed using maturity records from reduction fishery catches and NEAMAP survey data. A logistic regression is fit to length and maturity data in addition to using time-varying lengths at age to calculate time-varying maturity at age. Natural mortality is calculated by an age-varying, time invariant approach using the methods of Lorenzen (1996) that are scaled to tagging estimates of natural mortality. This estimate of natural mortality accounts for multiple sources of mortality including predation, pollution, habitat degradation, toxic algal blooms, and hypoxia. The assessment model is structured into “fleets-as-areas” in order to account for differences between bait and reduction fisheries in the north and south. In addition, dome shaped selectivity is used for all fishery fleets.

The Beaufort Assessment Model (BAM) is used to produce final assessment results. This is a statistical forward-projection model that has been used in previous Atlantic menhaden assessments (SEDAR, 2015).

### **1.2.2.1 Abundance and Structure**

Annual Atlantic menhaden population size (age 0 and older at the start of the fishing season) has ranged from approximately 10 to 85 billion fish since 1955 (Figure 1). Population size averaged 45.0 billion menhaden during 1955-1959 when landings were high (averaging >600,000 mt). During the 1960's, the menhaden stock contracted geographically, and the population averaged 14.9 billion fish. Total menhaden landings dropped to a low of 172,200 mt in 1969. In the 1970s and 1980s the menhaden population began to expand and the population size averaged 30.8 billion fish. During this time period, average landings rose to over 300,000 mt. During the 1990s, the Atlantic menhaden stock contracted again, and catches declined from 429,300 mt in 1990 to 206,000 mt in 1999. From 2000-2016, the population size averaged 16.4 billion fish and total catches have averaged about 200,000 mt per year.

The oldest menhaden age classes comprise the smallest proportion of the population (Figure 1), but this proportion has increased in recent years (SEDAR, 2015). For this reason, biomass is likely increasing at a faster rate than abundance because of the increased number of older fish at age and the associated increase in weight at age (SEDAR, 2015).

### **1.2.2.2 Fishing Mortality**

Highly variable fishing mortalities are noted throughout the entire time series and are dependent upon fishing effort. The highest fishing mortalities for the commercial reduction fishery in the north are estimated to have occurred in the 1950s (Figure 2), whereas the highest fishing mortality rates for the commercial reduction fishery in the south are estimated to have occurred during the 1970s and 1990s (Figure 2). The highest fishing mortalities for the commercial bait fishery in the north are estimated to have occurred in the 1950s and 1990s (Figure 3), while the highest fishing mortality rates for the commercial bait fishery in the south are estimated to have occurred during the late 1990s and early 2000s (Figure 3).

In the 2015 Benchmark Stock Assessment, the Technical Committee (TC) initially recommended that the Board adopt a fishing mortality threshold based on the maximum F value at age-2 during the 1960-2012 time period and a target fishing mortality based on the median F value during this time period. However, in order to provide a more robust measure of fishing pressure under changing selectivity, it was recommended by the Peer Review panel that the geometric mean fishing mortality on ages-2 to -4 be used instead of the suggested age-2 reference points. This recommendation was accepted for use by the TC because these ages represent the fully selected fishing mortality rates depending upon the year and fishery (i.e., bait and reduction). As a result of the 2017 Stock Assessment Update, the fishing mortality reference points are F-target ( $F_{36\% \text{ MSP}} = 0.80$ ) and F-threshold ( $F_{21\% \text{ MSP}} = 1.85$ ).

Based on these reference points, fishing mortality has remained below the fishing mortality threshold (1.85) since the 1960s, hovered around the target (0.80) throughout most of the time-series, and was estimated to be 0.51 in 2016 (the terminal year of the assessment).

### **1.2.2.3 Recruitment**

Age-0 recruits of Atlantic menhaden (Figure 4) were high during the late 1950s, especially the 1958 year-class. Recruitment was generally poor during the 1960s and high during the late 1970s and early 1980s. Since then, recruitment has been low with notable year classes in 2005 and 2010. The estimated number of age-0 fish in 2016 (the terminal year of the assessment) was 13.36 billion fish.

### **1.2.2.4 Spawning Stock Biomass (Fecundity)**

Often reproductive capacity of a stock is modeled using female weight-at-age, primarily because of a lack of fecundity data. To the extent that egg production is not linearly related to female weight, indices of egg production (fecundity) are better measures of the reproductive output of a stock at a given size and age structure. Additionally, fecundity better emphasizes the important contribution of older and larger individuals to egg production. Thus, in the most recent benchmark stock assessment (SEDAR, 2015), modeling increases in egg production with size was preferable to female biomass as a measure of the reproductive capability of the stock.

Population fecundity (*FEC*, number of maturing ova) was highest in the early 1960s, early 1970s, and the present decade, and has generally been higher with older age classes making up a larger proportion of the population (Figure 5). Large values of population fecundity were present in 2012 and 2013. Throughout the time series, age-2 and age-3 fish have produced most of the total estimated number of eggs spawned annually; however, in more recent years, ages-4+ have contributed a higher proportion to the overall number of eggs.

### **1.2.2.5 Maximum Spawning Potential**

Amendment 2 (2013) implemented maximum spawning potential (MSP) based reference points that relate current stock conditions as a percent of unfished conditions. An unfished stock is equal to 100% MSP. Considering the modeling and data input changes that occurred in the 2015 Benchmark Stock Assessment, the TC and Peer Review Panel recommended new MSP based reference points that are applicable to the results of the assessment (ASMFC 2015).

The fecundity (*FEC*) reference points match the *F* reference points, meaning they are equal to the fecundity estimated when the population reaches equilibrium when fishing under the fishing mortality target and threshold MSP levels, respectively. The associated reference points for population fecundity are *FEC*-target ( $FEC_{36\%MSP} = 99,467$  (billions of eggs)), and *FEC*-threshold ( $FEC_{21\%MSP} = 57,295$  (billions of eggs)). In other words, the *FEC* target would maintain 36% of the spawning potential of an unfished stock, and the threshold would preserve 21% of the spawning potential of an unfished stock. In 2016, fecundity was estimated to be 83,486 billion eggs.

## **1.2.3 Current Stock Status**

The current stock status determination is based on the 2017 Atlantic Menhaden Stock Assessment Update (ASMFC, 2017). The fishing mortality reference points are *F*-target ( $F_{36\%} = 0.80$ ) and *F*-threshold ( $F_{21\%} = 1.85$ ). The associated reference points for population fecundity are

$FEC$ -target ( $FEC_{36\%}$ ) = 99,467 (billions of eggs), and  $FEC$ -threshold ( $FEC_{21\%}$ ) = 57,295 (billions of eggs). As of 2016, overfishing is not occurring because fishing mortality for the terminal year is estimated to be  $F = 0.51$ , below both the target and the threshold (Figure 6). Additionally, the stock is not overfished because fecundity for 2016 is estimated to be  $FEC = 83,486$  billion eggs, above the threshold and just below the target (Figure 7).

## **1.3 DESCRIPTION OF THE FISHERY**

### **1.3.1 Commercial Fishery**

Atlantic menhaden have supported one of the United States' largest fisheries since colonial times. Menhaden have repeatedly been listed as one of the nation's most important commercial fisheries in terms of quantity. Preliminary Atlantic menhaden landings in 2016 totaled 181,344 mt (399.8 million lbs.) (Table 2). Landings records indicate that roughly 25 million mt (55.1 billion lbs.) of Atlantic menhaden have been caught by fishing fleets operating from Maine to Florida since 1940.

Native Americans were the first to use menhaden, primarily as fertilizer. Colonists soon recognized the value of menhaden as fertilizer and local seine fisheries gradually developed from Maine to New York. In 1811, the menhaden oil industry began in Rhode Island (Frye, 1999). Numerous small factories were located along the Northeast coasts; however, their supply was limited to fish that could be captured by the traditional shore-based seines. In 1845, the purse seine was introduced, enabling fishermen to harvest a larger quantity of menhaden further from shore. By 1870, the industry had expanded southward, with several plants in the Chesapeake Bay and North Carolina areas (Whitehurst, 1973). The industry gradually developed during the late 1800s and early 1900s and was described in considerable detail prior to World War I by Greer (1915). After World War I, the primary use of menhaden changed from fertilizer to animal feed due to the development of a process known as fish reduction. Menhaden meal began to be mixed into poultry, swine, and cattle feeds as the amount used for fertilizer decreased (Harrison, 1931). The current commercial fishery is divided into the reduction fishery, in which menhaden are produced into fish meal and fish oil, and the bait fishery, in which menhaden are harvested as a bait source for other commercial and recreational fisheries. A variety of gears are used to harvest menhaden commercially.

#### **1.3.1.1 Reduction Fishery**

##### Vessels, Reduction Plants, and Harvest Capacity

Several technological advances have helped the menhaden reduction fishery maintain its viability over the last century. The early menhaden purse seine reduction fishery utilized sailing vessels; however, the introduction of coal-fired steamers after the Civil War enabled the reduction fishery to fish further grounds. In the 1930s, vessels again improved through the use of diesel-power which replaced many of the coal-fired steamers. A critical development in the reduction fishery was the use of spotter aircraft in 1946. This practice is still used today to locate schools of menhaden. The refrigeration of vessel holds in the 1960s and 1970s was another crucial development for the reduction fishery. Despite restricted access to a number of



traditional fishing grounds, a reduced fleet size, and fewer processing plants to land fish, refrigerated holds enabled the fleet to maximize the harvest during peak resource availability. Refrigeration also allowed the fleet to stay out longer and access a wider geographic area, greatly improving the ability to catch fish when and where they were available. All seven vessels in the menhaden fleet in 2013 utilized refrigerated fish holds, compared to only 60% of the fleet in 1980.

Currently, menhaden reduction operations use spotter aircraft to locate schools of menhaden and direct vessels to the fish. When a school is located, two purse boats, with a net stretched between them, are deployed. The purse boats encircle the school and close the net to form a purse, or bag. The net is then retrieved to concentrate the catch, and the mother ship comes along the side and pumps the catch into refrigerated holds. Individual sets can vary from 10 mt to more than 100 mt, and large vessels can carry 400-600 mt of refrigerated fish.

Overall, the total number of vessels participating in the menhaden reduction fishery has declined through time. Greer (1915) reported 147 vessels in 1912. During 1955-1959, about 115-130 vessels fished during the summer season, while 30-60 participated in the North Carolina fall fishery. As the resource declined during the 1960s, fleet size decreased by more than 50%. Through the 1970s, approximately 40 vessels fished during the summer season, while roughly 20 were active in the fall fishery. During 1980-1990, 16-33 vessels fished the summer season, and the level of effort in the fall fishery ranged from 3 to 25 vessels. In 2013, only seven vessels participated in the reduction fishery.

One of the major changes in the reduction fishery has been the decrease in the number of operating reduction plants. During peak landing years (1953-1962), there were anywhere from 19 to 25 reduction plants in operation located along the Atlantic coast from Maine to Florida. Many plants closed in the late 1960s as the resource began to decline and, in 1975, there were 12 reduction plants in operation. In 1985, this decreased to six plants and by 1994, there were only three plants located in Virginia and North Carolina. A major change in the reduction industry took place following the 1997 fishing season, when the two reduction plants operating in Reedville, VA, consolidated into a single company and a single factory; this significantly reduced effort and overall production capacity. Another major event within the industry occurred in the spring of 2005 when the fish factory in Beaufort, North Carolina, closed and the owners sold the property to coastal developers. Today, there is a single reduction plant along the U.S. Atlantic coast located in Reedville, Virginia.

Reduction landings averaged 310,900 mt from 1940-2016, but only averaged 161,700 mt from 2000 – 2016 (Table 3, Figure 8). Reduction landings since 1940 peaked in 1956 at 712,100 mt, with the lowest value since 1940 occurring in 2013 (131,000 mt). It is important to note that 2013 was the first year a TAC was implemented in the menhaden fishery. This TAC represented a 20% reduction from average landings in 2009-2011. Other causes of declines in reduction harvest include lower menhaden abundance, reduced fleet size, and reduced reduction plant capacity.

The menhaden reduction fishery is seasonal as the presence of menhaden schools is dependent on the temperature of coastal waters. Two fairly distinct fishing seasons occur: the 'summer fishery' and the 'fall fishery'. The summer fishery begins in April with the appearance of schools of menhaden off the North Carolina coast. The fish migrate northward, appearing off southern New England in May-June. The fall fishery begins when migratory fish appear off Virginia and North Carolina. In early fall, this southward migration is initiated by cooling ocean temperatures. By late November-early December, most of the fish are found between Cape Hatteras and Cape Fear, North Carolina.

#### Reduction Fishery Products

Menhaden reduction plants, through a process of heating, separating, and drying, produce fish meal, fish oil, and fish solubles from fresh menhaden. Meal is a valuable ingredient in poultry and livestock feeds because of its high protein content (at least 60%). Meal can also be found in pet foods for fish and dogs. Menhaden oil is (or has been) used in cooking oils, margarine, soap, linoleum, waterproof fabrics, and certain types of paint. Menhaden oil is often marketed as a source of omega-3 fatty acids and can be incorporated into food and beverage products as well as dietary supplements. Solubles are the aqueous liquid component remaining after oil removal. In general, most meal producers add the soluble component to the meal to create a product termed "full meal." Solubles can be used in the aquaculture industry as an attractant and as a fertilizer.

#### Internal Waters Processing

Section 306 of the Magnuson-Stevens Fishery Conservation and Management Act (PL 94-265) allows foreign fish processing vessels to operate within the internal waters of a state with the permission of the Governor of that state. Up to three internal waters processing (IWP) ventures operated within Maine's coastal waters during 1988-1993. Under state jurisdiction, a foreign vessel was permitted to process menhaden caught by US vessels into fish meal and oil during the 1988-1993 fishing seasons. In 1987, two New England-based menhaden vessels began to fish in the Gulf of Maine, landing the catch at a Canadian processing plant. Another Canadian factory in Nova Scotia processed menhaden in 1992 and 1993. No menhaden have been processed in the North Atlantic since the summer of 1993.

#### **1.3.1.2 Bait Fishery**

Menhaden from bait fisheries is primarily harvested with purse seines, pound nets, gill nets, and trawls, with a smaller amount of harvest coming from cast nets, fyke nets, and haul seines. Menhaden are taken for bait in almost all Atlantic coast states and are frequently used for bait in crab pots, lobster pots, and hook and line fisheries (both sport and commercial).

Since 1985, the proportion of menhaden landed as bait has generally increased (Table 3, Figure 8). Reported bait landings averaged 10% of the total Atlantic menhaden landings from 1985-2000 and 20% of total landings from 2001-2016. This increase in the percent of coastal bait landings can be attributed to better data collection in the fishery and a decline in coastal reduction landings. The closure of reduction plants in New England and the Mid-Atlantic may

have influenced growth in the bait fishery, making more product available for the lobster and crab pot fisheries, as well as bait for sport fishermen. Additionally, the passage of a net ban in Florida in November 1994 reduced the availability of bait in that state, which may have opened up new markets for menhaden bait caught in Virginia and the Mid-Atlantic states. The appearance of growth in the Atlantic coast bait fishery must be tempered by the knowledge that reporting systems for bait landings have historically been incomplete.

Menhaden bait landings have not always been well-documented leading to an under-estimate of historic harvest. Historically, there have been some well-documented, large-scale, directed bait fisheries for menhaden using gears such as purse seines, pound nets, and gill nets; however, there have also been many small-scale directed bait fisheries, such as those using cast nets and beach seines, which have supplied large quantities of bait and had few, if any, reporting requirements. Estimates of menhaden bait landings have improved over the years as most states implemented reporting requirements for the smaller scale fisheries by the late 2000s. States were required to implement timely reporting as a part of Amendment 2 (2012) in order to monitor quota allocations.

Given the geographic expanse of the menhaden bait fishery, there are regional differences in how and when menhaden are harvested. In the southeast, menhaden landings are dominated by Florida and North Carolina. In Florida, menhaden landings are primarily landed with cast nets since the state implemented a net ban in 1994. Prior to this time, Florida had significant bait landings from gill nets and purse seines. Fishermen in North Carolina use cast nets, gill nets, and pound nets to harvest menhaden. The principal use for menhaden as bait in North Carolina is in the blue crab fishery. In addition, some keep menhaden alive in holding tanks for “slow trolling” of species such as king mackerel. There are no directed menhaden fisheries in South Carolina and Georgia.

Menhaden bait landings in Virginia are dominated by purse seine vessels referred to as ‘snapper rigs’. These vessels range from about 80-135 ft long and primarily sell bait to the sport and crab fisheries. In contrast, the Maryland and Potomac River bait fisheries are primarily executed by pound nets, a large fixed gear. The pound net fishery in the Chesapeake Bay region is carried out by numerous small, non-refrigerated vessels. Maximum hold capacity of these pound net vessels is 9 mt or less, but daily catches are usually well below vessel capacity and are limited by the number of fish encountered in the fixed gear. The majority of these fish supply the local blue crab fishery.

In the Mid-Atlantic, there has been an expansion of the purse seine bait fishery, particularly in New Jersey. The New Jersey menhaden fishery utilizes about 20 carry vessels and about 15 catch vessels per year. Most operations have a catch vessel paired with a specific carry vessel, but some vessels are both catch and carry. Carry vessel length ranges from 59-90 ft and catch vessel length ranges from 40-88 ft. Net length is restricted to 150 fathoms (900 ft) by

regulation. In New York and Delaware, menhaden bait landings are primarily caught in pound nets, gill nets, casts, and seines.

In the New England region, purse seine landings in Maine, Massachusetts and Rhode Island account for the majority of the recorded bait landings. The New England operators are fairly small, typically with one harvest vessel, ranging in size from the 30 to 90 ft in length. In Rhode Island, there is a historic floating fish trap fishery which harvests the majority of menhaden landed in the state. In Connecticut, smaller directed gill net fisheries also harvest menhaden. The bulk of menhaden landings for bait in New England are used in the lobster fishery.

### **1.3.2 Recreational Fishery**

Menhaden are important bait in many recreational fisheries and, as a result, some recreational fishermen employ cast nets to capture menhaden or snag them with hook and line.

Recreational harvest is not well captured by the Marine Recreational Information Program (MRIP) because there is not a known direct harvest for menhaden, other than for bait. MRIP intercepts typically capture the landed fish from recreational trips as fishermen come to the dock or on the beach. Since the menhaden caught by recreational fishermen are used as bait during their trip, they typically are not part of the catch that is seen by the surveyor completing the intercept.

From what is known, recreational catch has varied over time with a high of 672.3 mt in 1992 and a low of 12.2 mt in 2000. The average harvest between 1981 and 2015 was 206.8 mt. Landings have averaged 382.5 mt between 2011 and 2015. Recreational landings from 2016 were 759.7 mt, a new high for the time series (Figure 9).

### **1.3.3 Subsistence Fishing**

No subsistence fisheries for Atlantic menhaden have been identified at this time.

### **1.3.4 Non-Consumptive Factors**

Menhaden provide an important forage base for many fish, bird, and marine mammal species. Please refer to *Section 1.1.2.1 Ecological Benefits*.

### **1.3.5 Interactions with Other Fisheries**

Incidental bycatch of other finfish species in menhaden purse seines has been a topic of interest and concern for many years (Christmas et al., 1960; Oviatt, 1977; Smith, 1896). Past studies have indicated that there is little or no bycatch in the menhaden purse seine fishery; however, there is currently no requirement for at-sea observers.

The Virginia Institute of Marine Science studied bycatch levels of finfish, turtles, and marine mammals in the Atlantic menhaden fishery. Results from that study indicated that bycatch in the 1992 Atlantic menhaden reduction fishery was minimal, comprising about 0.04% by number (Austin et al., 1994). The maximum percentage of bycatch occurred in August (0.14%) while the lowest occurred in September (0.002%). Among important recreational species, bluefish accounted for the largest portion of bycatch (0.0075% of the total menhaden catch). No marine mammals, sea turtles, or other protected species were killed, captured, entangled, or observed during sampling.

Additional data are available from the Gulf of Maine IWP fishery in 1991. Every catch unloaded onto the processing vessel was inspected by a state observer. A total of 93 fish were taken as bycatch along with roughly 60,000,000 individual menhaden (D. Stevenson, Maine DMR, pers. comm.; as cited in ASMFC 1992).

## **1.4 HABITAT CONSIDERATIONS**

### **1.4.1 Physical Description of Habitat**

#### ***1.4.1.1 Gulf of Maine***

The Gulf of Maine is a semi-enclosed sea of 36,300 mi<sup>2</sup> (90,700 km<sup>2</sup>) bordered on the northeast, north and west by the coasts of Nova Scotia, New Brunswick, and the New England states. To the south and east, the Gulf is open to the North Atlantic Ocean; however, Georges Bank forms a partial southern boundary below about 165 ft (50 m). The interior of the Gulf of Maine is characterized by five major deep basins (>600 ft, 200 m) which are separated by irregular topography that includes shallow ridges, banks, and ledges. Basins make up about 30% of the floor area (Thompson, 2010). Retreating glaciers (18,000–14,000 years ago) left behind a variety of patchily distributed sediment types including silt, sand, clay, gravel, and boulders (NMFS, 2015). Major tributary rivers are the St. John in New Brunswick; St. Croix, Penobscot, Kennebec, Androscoggin, and Saco in Maine; and Merrimack in Massachusetts.

The predominantly rocky coast of Maine is characterized by steep terrain and bathymetry, with numerous islands, embayments, pocket beaches, and relatively small estuaries. Tidal marshes and mud flats occur along the margins of these estuaries. Farther south, the coastline is more uniform with few sizable bays, inlets, or islands, but with many small coves. Extensive tidal marshes, mud flats, and sandy beaches along this portion of the coast are gently sloped. Marshes exist along the open coast and within the coves and estuaries.

The surface circulation of the Gulf of Maine is generally counterclockwise, with an offshore flow at Cape Cod which joins the secondary, clockwise gyre on the northern edge of Georges Bank. The Northeast and Great South Channels, which bookend Georges Bank, serve as the primary inflow and outflow channels of marine waters, respectively. Some of the water entering the Northeast Channel flows into the Bay of Fundy; another portion turns west to feed the Maine Coastal Current, initiating the counterclockwise direction of flow. The counterclockwise gyre is more pronounced in the spring when river runoff adds to the southwesterly flowing coastal

current. Surface currents reach velocities of 1.5 knots (80 cm/sec) in eastern Maine but gradually diminish to 0.2 knots (10-20 cm/sec) in Massachusetts Bay where tidal amplitude is about 10 ft (3 m) (Thompson, 2010).

There is great seasonal variation in sea surface temperature in the Gulf, ranging from 4°C in March throughout the Gulf to 18°C in the western Gulf and 14°C in the eastern Gulf in August. The Gulf of Maine sea surface temperature has been warming steadily over the last 35 years. In the most recent decade, the warming trend (0.23 °C /year) was faster than 99 percent of the global ocean (Pershing et al., 2015). The warming is related to a northward shift in the Gulf Stream and to changes in the Atlantic Multidecadal Oscillation and Pacific Decadal Oscillation (Pershing et al., 2015). The salinity of the surface layer also varies seasonally, with minimum values in the west occurring during summer, from the accumulated spring river runoff, and during winter in the east under the influence of runoff from the St. Lawrence River (from the previous spring). With the seasonal temperature and salinity changes, the density stratification in the upper water column also exhibits a seasonal cycle. From well mixed, vertically uniform conditions in winter, stratification develops through the spring and reaches a maximum in the summer. Stratification is more pronounced in the southwestern portion of the Gulf where tidal mixing is diminished.

#### **1.4.1.2 Mid-Atlantic Region**

The coastal zone of the Mid-Atlantic states varies from a glaciated coastline in southern New England, to the flat and swampy coastal plain of North Carolina. Along the coastal plain, the beaches of the barrier islands are wide, gently sloped, and sandy, with gradually deepening offshore waters. The area is characterized by a series of sounds, broad estuaries, large river basins (e.g., Connecticut, Hudson, Delaware, and Susquehanna), and barrier islands. Conspicuous estuarine features are Narragansett Bay (Rhode Island), Long Island Sound and Hudson River (New York), Delaware Bay (New Jersey and Delaware), Chesapeake Bay (Maryland and Virginia), and the nearly continuous band of estuaries behind barrier islands along southern Long Island, New Jersey, Delaware, Maryland, Virginia, and North Carolina. The complex estuary of Currituck, Albemarle, and Pamlico Sounds behind the Outer Banks of North Carolina (covering an area of 2,500 square miles) is an important feature of the region. Coastal marshes border those estuaries along much of the glaciated coast from Cape Cod to Long Island Sound. Nearly continuous marshes occur along the shores of the estuaries behind the barrier islands.

At Cape Hatteras, the Continental Shelf extends seaward approximately 20 mi (33 km), and gradually widens northward to about 68 mi (113 km) off New Jersey and Rhode Island where it is intersected by numerous underwater canyons. Surface circulation north of Cape Hatteras is generally southwesterly during all seasons, although this may be interrupted by coastal in-drafting and some reversal of flow at the northern and southern extremities of the area. Speeds of drift north of Cape Hatteras are on the order of six miles (9.7 km) per day. There may be a shoreward component to this drift during the warmer half of the year and an offshore component during the colder half. The western edge of the Gulf Stream meanders off Cape Hatteras, sometimes coming within 12 mi (20 km) of the shore; however, it becomes less

discrete and veers to the northeast above Cape Cod. Surface currents as high as 4 knots (200 cm/sec) have been measured in the Gulf Stream off Cape Hatteras.

Hydrographic conditions in the Mid-Atlantic region vary seasonally due to river runoff and changing water temperatures. The water column becomes increasingly stratified in the summer and homogeneous in the winter due to fall-winter cooling of surface waters. In the winter, the mean range of sea surface temperatures is 0-7°C off Cape Cod and 1-14°C off Cape Charles (at the southern end of the Delmarva Peninsula). In the summer, the mean range is 15-21°C off Cape Cod and 20-27°C off Cape Charles. The tidal range averages slightly over 3 ft (1 m) on Cape Cod, decreasing to the west. Within Long Island Sound and along the south shore of Long Island, tide ranges gradually increase, reaching 6 ft (2 m) at the head of the Sound and in the New York Bight. South of the Bight, tide ranges decrease gradually to slightly over 3 ft (1 m) at Cape Hatteras. Prevailing southwest winds during the summer along the Outer Banks often lead to nearshore upwelling of colder bottom water from offshore, so that surface water temperatures can vary widely during that period (15-27°C over a period of a few days).

The waters of the coastal Mid-Atlantic region have a complex and seasonally dependent circulation pattern. Seasonally varying winds and irregularities in the coastline result in the formation of a complex system of local eddies and gyres. Surface currents tend to be strongest in late spring, due to river runoff, and during periods of highest winds in the winter. In late summer, when winds are light and estuarine discharge is minimal, currents tend to be sluggish, and the water column is generally stratified.

#### ***1.4.1.3 South Atlantic Region***

The south Atlantic coastal zone extends in a large oceanic bight from Cape Hatteras south to Biscayne Bay and the Florida Keys. North of Florida, the south Atlantic coastal zone is bordered by a coastal plain that stretches inland for a hundred miles and a broad continental shelf that reaches into the ocean for nearly an equal distance. This broad shelf tapers down to a very narrow and precipitous shelf off the southeastern coast of Florida. The irregular coastline of North Carolina, South Carolina, Georgia, and eastern Florida is generally endowed with extensive bays and estuarine waters, bordered by nutrient-rich marshlands. Barrier beaches and dunes protect much of the shoreline. Along much of the southern coast from central South Carolina to northern Florida, estuarine salt-marsh is prominent. Most of the east coast of Florida varies little in general form. Sand beaches with dunes are sporadically interrupted by mangrove swamps and low banks of earth and rock.

The movements of oceanic waters along the South Atlantic coast have not been well defined. The surface currents, countercurrents, and eddies are all affected by environmental factors, particularly winds. The Gulf Stream flows along the coast at 6-7 miles per hour (10-11 km/hr). It is nearest to the coast off southern Florida and gradually moves away from the coast as it flows northward. Inshore of the Gulf stream, there is a current that flows southward for most of the year in regions north of Cape Canaveral.

Sea surface temperatures during the winter increase southward from Cape Hatteras to Fort Lauderdale, Florida, with mean minimums ranging from 2-20°C and maximums ranging from 17-26°C. In the summer, the increases are more gradual, ranging north to south from minimums of 21-27°C to maximums of 28-30°C. Mean sea-surface salinity is generally in the range of 34 to 36 ppt year round. Mean tidal range is just over 3 ft (1 m) at Cape Hatteras and increases gradually to about 6-7 ft (2 m) along the Georgia coast. Tides decrease south of Cape Canaveral to 3 ft (1 m) at Fort Lauderdale.

## **1.4.2 Environmental Requirements of Atlantic Menhaden**

### **1.4.2.1 Temperature, Salinity, and Dissolved Oxygen**

While Atlantic menhaden occur throughout a wide range of physicochemical conditions, several studies have raised questions about the species' environmental limits and optimum conditions. In particular, studies have noted an affinity of young menhaden for low salinity waters. Wilkens and Lewis (1971) speculated that larval menhaden require low salinity water to metamorphose properly, and Lewis (1966) found that, although larvae metamorphosed in salinities of 15-40 ppt, one-third of the juveniles developed slightly crooked vertebral columns. Furthermore, larvae reared by Hettler (1976) at a lower salinity of 5-10 ppt exhibited significantly higher activity levels, metabolic rates, and growth rates than those reared at 28-34 ppt. Rogers et al. (1984) noted that pre-juveniles of many fishes, including those of *Brevoortia* species, enter estuarine habitats during seasonal peaks of freshwater influx when the area of low salinity and fresh tidal water is greatest.

Studies also suggest that temperature also has an important effect on larval development and dispersion. In the South Atlantic region, sea surface temperature readings during the months of highest egg capture were generally 12-20°C (Walford and Wicklund, 1968). In the North Atlantic, the lowest temperature at which Atlantic menhaden eggs and larvae were collected was between 10 and 13°C (Ferraro, 1980). The temperature range for the Mid-Atlantic region was 0-25°C, but most eggs and larvae were collected at 16-19°C (Kendall and Reintjes, 1975). Studies suggest that the limits of larval temperature tolerance are affected by acclimation time. Survival above 30°C (Lewis and Hettler, 1968) and below 5°C (Lewis, 1965) was progressively extended by acclimation temperatures closer to test values, suggesting that rapid changes to extreme temperatures are more likely to be lethal than prolonged exposure to slowly changing values. Mortality of juvenile Atlantic menhaden to a temperature decrease of 10°C (from 15 to 5°C) was less when temperature was decreased at a rate of 6.7°C/h or lower.

A potential management consideration is that, historically, estuarine zones received freshwater from contiguous wetlands and riverine systems. However, channelization, diking of river courses, ditching and draining of marginal wetlands, and urbanization have reduced the freshwater retention capacities of coastal wetlands. Furthermore, extensive filling of estuarine marshlands has diminished the area receiving runoff in many locations. In combination, these changes cause the rapid discharge of freshwater during brief periods and reduced amounts of freshwater at other times. High inflows, particularly those that occur in early spring after the arrival of pre-juvenile menhaden, can expose fish to extreme fluctuations of temperature,



turbidity, and other environmental conditions. Although the effects of altered freshwater flow regimes on Atlantic menhaden are not known, effects on other estuarine dependent, offshore spawned fishes range from disappearance (Rogers et al., 1984) to death (Nordlie et al., 1982).

Dissolved oxygen, particularly at low levels, can also impact the survival of menhaden. Lewis and Hettler (1968) observed increased survival of juveniles at 35.5°C with increased dissolved oxygen (DO) saturation. Burton et al. (1980) reported a mean lethal DO concentration of 0.4 mg/l, but warned against interpretation of this value as “safe”, in view of the interactive nature of environmental factors.

#### **1.4.2.2 Primary Production**

Abundance of YOY juvenile menhaden is strongly and positively correlated with *chl-a* and primary production in the Chesapeake Bay (Houde and Harding, 2009). Although recent research indicates that age-1+ menhaden may derive most energy from zooplankton food (Lynch et al., 2010; Friedland et al., 2011), it is apparent that YOY menhaden can efficiently filter small phytoplankton (Friedland et al., 2006) and that it is their primary food. The timing, intensity, quality, and spatial variability of the spring phytoplankton bloom in the Chesapeake Bay show high inter-annual variability and are strongly affected by climate (Adolf et al., 2006; Miller and Harding, 2007). This variability in primary production is likely a key factor controlling production potential of young menhaden in estuarine habitats.

#### **1.4.2.3 Sediments and Turbidity**

Forest clearing, and the removal of the buffer provided by trees, shrubs, plants, and wetlands, has led to changes in sediment loading due to unrestricted stormwater flow (Brush, 1986). This results in erosion that brings increased sediment into estuaries, such as the Chesapeake Bay. In addition, the dramatic increase in impermeable surfaces has also increased runoff, as impervious surfaces amplify storm water discharges into streams (Goetz and Jantz, 2006). One consequence of these changes is that sediment grain size has changed over time so that very fine sediment now predominates, which reduces light penetration. Secchi disk readings from the Chesapeake Bay have steadily declined since 1985 from just over 2 meters to about 1 meter in 2008 (Greer, 2008). Because filter feeding juvenile menhaden can retain particles as small as 5-7  $\mu\text{m}$ , and to a minor extent particles  $<5 \mu\text{m}$ , there is a possibility that menhaden feeding could be compromised (Friedland et al., 1984).

The resulting increased turbidity acts to shade submerged aquatic vegetation (SAV), thus decreasing the extent and composition of SAV beds. Loss of SAV may indirectly affect menhaden by increasing turbidity even further as a result of increased sediment resuspension (Orth et al., 2006), which in turn can lower phytoplankton productivity. SAV has also been shown to exercise control over ecosystem function through nutrient recycling and linkage to fish productivity (Orth et al., 2006; Hughes et al., 2009), which may impact menhaden abundance, although specific impacts are not known at present.

#### **1.4.2.4 Water Movement**

Currents and circulation features play an important role in cueing reproduction, and in controlling dispersal of larval stages, assuring that some larvae are transported to the coastal estuaries and embayments that serve as juvenile nurseries. Most larval menhaden are found shoreward of the Gulf Stream Front (GSF); those sampled in the GSF, or seaward of it, presumably are rapidly advected northeast and lost to the population although it is possible that warm-core rings and onshore streamers could return some larvae to the shelf (Hare and Govoni, 2005). There is ample evidence, based on observations and models, that coastward transport of larvae is supported by favorable winds and currents on the shelf (Checkley et al. 1988; Werner et al., 1999). Models and observations of advective mechanisms at estuary mouths present a less-clear picture of how menhaden larvae move into estuaries, although it is apparent that winds, tides, and larval behavior control the ingress.

Inter-annual variability in recruitment is believed to be, at least partly, controlled by variability in oceanographic conditions that affect hydrography, circulation, and possibly biological productivity. Weather and climate patterns are probable drivers of such variability. Wood et al. (2004) demonstrated that prevalence of a late-winter climate pattern that brings dry and warm weather to the Mid-Atlantic region is associated with high recruitment of Atlantic menhaden. This weather pattern may promote favorable shoreward transport or feeding conditions for early-stage menhaden larvae while on the continental shelf.

#### **1.4.2.5 Substrate and System Features**

The association of Atlantic menhaden with estuarine and nearshore systems during all phases of its life cycle is well documented. It is evident that young menhaden require these food rich waters to survive and grow, and the fishery is concentrated near major estuarine systems. Filling of estuarine wetlands, in addition to exacerbating extremes in environmental conditions, has physically limited the nursery habitat available to Atlantic menhaden and other estuarine-dependent species. The relative importance, however, of different habitat types (i.e. sounds, channels, marshes) and salinity regimes has received little detailed attention (Rogers and Van Den Avyle 1989).

### **1.4.3 Identification and Distribution of Essential Habitat**

Estuarine and nearshore waters along the Atlantic coast from Florida to Nova Scotia serve as important habitat for juvenile and/or adult Atlantic menhaden. Within this wide geographic range, hydrographic and circulation features constrain population distribution (MDSG 2009). Adult menhaden distribution is bounded by the Gulf Stream Front on the seaward side and by water temperatures greater than 10°C (MDSG 2009).

Adult Atlantic menhaden spawn in oceanic waters along the continental shelf, as well as in sounds and bays in the northern extent of their range (Judy and Lewis, 1983). Winds and tides transport larvae shoreward from the shelf (Checkley et al., 1988; Werner et al., 1999) toward nursery grounds in the estuaries. Larvae are between one and three months old, usually closer to two months, at first ingress into estuaries (Warlen et al., 2002; MDSG, 2009). After entering

the estuary, larvae congregate in large concentrations near the upstream limits of the tidal zone, where they metamorphose into juveniles (June and Chamberlin 1959, Houde 2011).

Historically, Chesapeake Bay was considered to be the most productive nursery area (contributing 69% of Atlantic menhaden recruits [age 1] to the coast wide population), followed by the south Atlantic (17%), and the Mid-Atlantic sections from Maryland to New York (12%) (Ahrenholz et al., 1989; ASMFC, 2004; Anstead et al., 2017). However new research credits the Chesapeake Bay with 30% of age 1 recruits and New England and the southeast estuaries contributing equal portions to the population (Anstead et al., 2016). Furthermore, recruits from all three areas, in the same proportions, have been shown to persist in the population beyond the first year to ages 2-4, therefore becoming part of the reproductive population (Anstead et al. 2017).

#### **1.4.4 Anthropogenic Impacts on Atlantic Menhaden and Their Habitat**

The human population along the coast is steadily increasing, and the average number of people per square mile in coastal counties has nearly doubled since 1960 (U.S Census Bureau 2010). Increasing human presence precipitates industrial and municipal expansion, thus intensifying anthropogenic pressure on resources and accelerating competition for use of land and water. Consequently, estuarine and coastal habitats have been significantly reduced and continue to be stressed by dredging, filling, coastal construction, energy plant development, pollution, waste disposal, nutrient loading, and other human-related activities.

Degraded water quality in estuaries threatens critical nursery habitat for young menhaden. Concern has been expressed (Ahrenholz et al., 1987) that the outbreaks of ulcerative mycosis in the 1980s may have been symptomatic of deteriorating water quality in estuarine waters along the east coast. Human population growth and increasing development in the coastal zone are expected to further reduce water quality unless steps are taken to ameliorate their effect on the environment (Cross et al., 1985). Altering habitats and water quality can affect menhaden habitat use and productivity - responses that are magnified in estuaries where human use and biological productivity heavily interact.

Perhaps the most significant physical alteration of the Chesapeake Bay watershed in recent decades has been the increase in impervious surfaces. More than 400,000 hectares are currently categorized as impervious surface and that value continues to climb (Brush 2009). These surfaces increase the nutrient, sediment, and contaminant flow rate to the Chesapeake Bay (Clagett 2007), and exacerbate eutrophication and expansion of hypoxic and anoxic zones. Although not well studied at present, reduced water quality associated with increases in impervious surfaces could diminish habitat quality for menhaden or their predators.

Menhaden fish kills, both human-caused and naturally occurring, are a persistent problem in bays and estuaries throughout the range. Most states keep records of fish kills, documenting water quality, number of fish killed, and likely causes. Localized die-offs often occur due to critically low dissolved oxygen (DO) levels, which may result from a variety of factors including

high temperature, low flow, overcrowding, or algal blooms. Infectious diseases, parasites, toxicants, or miscellaneous human activity (e.g. thermal shock or fishing discards) may also cause localized mortality. In Maryland, nearly 50 years of records document annual menhaden kills ranging from tens to tens-of-millions of fish (max est. 47M fish in 1974), caused by a variety of factors from concussive explosions to disease and toxicants from spills or discharge (C. Poukish, MD DNR, pers. comm.). The most common factor was low DO in the presence of algal blooms, which causes an annual spring die-off. In the Neuse and Tar-Pamlico River estuaries in North Carolina, low oxygen events cause significant mortality of Atlantic menhaden and other fish species nearly every summer (R. Wilson Laney, USFWS, pers. Comm.). In Florida, nutrient inputs, exacerbated by low flushing in the Indian River Lagoon, result in Harmful Algal Blooms (HABs) and, ultimately, menhaden kills (K. Smith, FL FWC, pers. comm.).

In recent years the menhaden population appears to be rebounding and expanding to reoccupy its historic geographic range. With more fish returning to areas heavily used and impacted by humans, the potential for fish kills increases. For example, in 2016, tens of thousands of menhaden were killed when a lock closure trapped them in the Shinnecock Canal in New York.

At one time, fish kills may have solely been a natural occurrence, but anthropogenic impacts to water quality and flow have certainly exacerbated the frequency and intensity of these mortality events. State efforts to track fish kills can provide information on patterns and trends. North Carolina, for example, instituted a fish kill investigation procedure in 1996 to collect and track fish kill information. Data is maintained in a central database and is reviewed as part of an effort to monitor water quality trends.

A growing body of literature is beginning to describe shifts in species distributions and spawning locations and seasons, possibly due to a changing climate on the Atlantic coast (e.g. Walsh et al., 2015; Kleisner et al., 2016). Menhaden ingress to estuaries is sensitive to changes in wind patterns and temperatures, which are known to be variable and may be influenced by climate change (Quinlan et al., 1999; Austin, 2002). Moreover, nursery habitats within bays and estuaries are likely to be altered by the effects of climate change, in some cases potentially enhancing menhaden productivity and other cases, resulting in lower production and recruitment. The effects of climate change are predicted to include: increased water temperatures, sea-level rise, and changes in precipitation patterns and climate variability (Sherman et al., 2009). These changes can influence salinity, temperature, and nutrients throughout nursery grounds.

In addition to long-term climate change, the Atlantic coast has also experienced shorter-term, decadal fluctuations in weather, shifting between cold-wet and warm-dry periods. Austin (2002) showed that the 1960s were warmer and wetter than the 1970s and 1990s in the Mid-Atlantic. Menhaden recruitment success tends to be relatively high in years when late winter-spring conditions are warm and dry (Wood, 2000). Although menhaden recruitment has been correlated with the Atlantic Multidecadal Oscillation (Buchheister et al., 2016), the correlation between Chesapeake Bay and southern New England is reversed and the mechanisms of influence are unknown. The generally low recruitment of YOY menhaden in recent years appear

to be constrained by frequent cool and wet winter-spring conditions that favor recruitment of anadromous spawners, but not offshore-spawning fishes such as menhaden (Kimmel et al., 2009). It is not certain whether climate change will have positive or negative impacts on the long-term abundance and productivity of menhaden.

#### **1.4.5 Description of Programs to Protect, Restore, & Preserve Atlantic Menhaden Habitat**

The federal Coastal Zone Management Act provides a framework under which individual coastal states have developed their own coastal habitat protection programs. In general, wholesale dredging and filling are not allowed. Individual development projects are subject to state and federal review and permit limitations. Every Atlantic coast state has a coastal habitat protection program in place (Table 11.27 in ASMFC 1992). These protection programs have greatly reduced the loss of vital coastal habitat to dredging and filling since the mid-1970s. Virtually all proposals affecting coastal habitat are now reviewed by a variety of local, state, and federal agencies, and wholesale destruction of coastal wetlands is rare. Many important estuarine habitats are now protected as part of various wildlife refuges, national and state parks, and public and private nature preserves. In addition, a federal permit program is conducted by the U.S. Army Corps of Engineers, generally in cooperation with the state programs. Every state also conducts water quality protection programs under the federal Clean Water Act. National Pollution Discharge Elimination System permits are required for point-source discharges.

Unfortunately, these programs provide much less control over non-point pollution, especially from agricultural and silvicultural activities, and excess nutrient inputs from diverse sources continue to contribute to hypoxic and anoxic conditions in estuarine menhaden habitat. Additional work to more precisely define menhaden habitat parameters for all life stages and to develop accompanying map products is needed to inform diverse multi-agency and project applicant consultations and permitting processes so that further impacts to menhaden habitats are avoided or minimized.

### **1.5 IMPACTS OF THE FISHERY MANAGEMENT PROGRAM**

#### **1.5.1 Biological and Ecological Impacts**

##### ***1.5.1.1 Reference Points***

Sustained use of the existing single-species reference points using the method outlined in the 2015 Stock Assessment will continue to provide a greater measure of sustainability than the reference points established in Amendment 2; however, these reference points consider the status of menhaden independent of other species. The adoption of menhaden-specific ERPs will expand the focus of menhaden management by assessing the status of menhaden in relation to other prey and predator species. Menhaden-specific ERPs will seek to ensure maintenance of a forage base needed to support species such as striped bass, bluefish, and weakfish.

#### **1.5.1.2 Total Allowable Catch**

Limiting menhaden harvest through a Total Allowable Catch (TAC) provides a way to maintain the menhaden population above the overfished threshold and below the overfishing threshold. After the TAC is harvested in a given year, the directed fishery closes. This allows for greater protection of the spawning biomass, as opposed to allowing directed fishing to continue above and beyond the TAC. If properly set and enforced, quotas will prevent overfishing and ensure a sustainable resource for the future. Maintenance of a sustainable resource will also increase the forage base for commercially and recreationally important predator species.

#### **1.5.1.3 Quota Allocation**

The purpose of quota allocation in this Amendment is to identify an equitable and balanced approach through which menhaden quota can be distributed to various fisheries, gear types and jurisdictions. An allocation method which addresses the needs of each user group and is flexible to respond to future changes in the fishery will provide stability for the fishery and resource.

#### **1.5.1.4 Chesapeake Bay Reduction Fishery Cap**

The intent of the Chesapeake Bay Reduction Fishery Cap is to ensure protection of an important nursery ground for menhaden. This protection helps support menhaden recruitment in the Bay and protects a forage base for predators such as striped bass.

The Chesapeake Bay Reduction Fishery Cap was originally implemented in 2005 to prevent localized depletion of menhaden. Given the concentrated harvest of menhaden within the Chesapeake Bay, there was concern that localized depletion could be occurring in the Bay. In 2005, the Board established the Atlantic Menhaden Research Program (AMRP) to evaluate the possibility of localized depletion. Results from the peer review report in 2009 were unable to conclude localized depletion is occurring in the Chesapeake Bay and noted that, given the high mobility of menhaden, the potential for localized depletion could only occur on a “relatively small scale for a relatively short time”.

While the AMRP peer review report was not able to provide conclusive evidence that localized depletion is occurring, maintenance of the Chesapeake Bay reduction fishery cap does provide a greater level of protection in the region than the TAC alone.

#### **1.5.1.5 Data Collection and Reporting Requirements**

This Amendment requires states to implement timely quota monitoring programs so that the harvest of menhaden stays within the TAC and the potential for overages is limited. Furthermore, purse seine or bait seine vessels are required to submit Captain’s Daily Fishing Reports, or a similar trip report, on a daily basis, and states must collect biological samples relative to their level of harvest. This level of reporting is necessary for the implementation of a quota management system, as lengthy delays could lead to quota overages or premature closures of the fishery. Furthermore, continued biological sampling will increase knowledge on the stock’s age structure, improving the precision of menhaden abundance estimates in future stock assessments.

### 1.5.2 Social and Economic Impacts

This Amendment includes several measures which could carry social and economic impacts, notably potential changes to the reference points and allocation method. The use of menhaden-specific ERPs, when they are ready for management, may affect those who derive value from finfish, coastal birds, or marine mammals which predate upon menhaden. Ensuring a stable forage base for these species could increase their abundances, leading to positive social and economic impacts for individuals, groups, or communities which rely on these resources for consumptive (e.g., commercial or recreational harvest) or non-consumptive (e.g., bird or whale watching) purposes. Individuals who hold non-use values (e.g., existence value from knowing a particular environmental resource exists or bequest value from preserving a natural or cultural heritage for future generations) associated with affected species may also benefit from increased abundances. Estimates of potential economic or social impacts to these stakeholders as a result of menhaden-specific ERPs is challenging given complex and dynamic ecological relationships as well as the lack of socioeconomic data, especially for nonmarket goods and services.

For the commercial fisheries, the use of menhaden-specific ERPs, when they are ready for management, may lead to changes in the TAC. The extent and distribution of negative socioeconomic effects arising from changes to the TAC is dependent on price elasticities (responsiveness of demand to a change in price), substitute products, fishing costs, alternative employment opportunities, fishing community structure, and possibly other factors.

Identifying quota allocation methods which are fair and equitable among fishery sectors, gear types, and regions will enhance socioeconomic net benefits if changes in allocation result in higher value use of the menhaden resource. Shifts in allocation, while potentially beneficial overall, could disadvantage individual stakeholders through reductions in harvests, revenues, and profits. Implementation of data collection programs to ensure effective quota monitoring may add additional management costs.

A recently completed socioeconomic study of the commercial bait and reduction fisheries, funded by the ASMFC, contains several findings which elucidate possible social and economic impacts resulting from changes in menhaden management. In this study, researchers interviewed and surveyed industry members to uncover salient themes, analyzed historic landings data to resolve market relationships, performed economic impact analyses to consider the effects of various TAC changes, and conducted a public opinion survey to assess attitudes toward menhaden management (see Whitehead and Harrison, 2017 for the full report). Interviews and surveys of commercial fishers and other industry members found mixed opinions on several subjects; however, many agreed that the demand for menhaden bait, oil, and meal has increased in recent years. Exogenous demand increases, if leading to increases in ex-vessel prices, could benefit menhaden bait and reduction industry members; however, it is important to note that these benefits are unrelated to management actions discussed in this Amendment.

Analysis of historic landings data revealed that prices for menhaden were negatively related to landings levels, but that this relationship was small and insignificant in some instances. In particular, state-level analysis showed ex-vessel price is insensitive to landings. This finding suggests that reductions in the TAC might reduce commercial fishery revenues as decreases in landings are not fully compensated by higher prices. Ex-vessel prices of menhaden are not uniform along the coast, with some states having higher prices than others.

Economic impact analyses of changes to the TAC found income and employment decreases (increases) corresponding to TAC decreases (increases), with the largest impacts concentrated in New Jersey and Virginia. For example, the analysis suggests that when totaling direct, indirect, and induced economic changes in the bait fishery, a 5% increase in the TAC from the 2017 baseline would result in 18 more jobs, a \$476,000 increase in total earnings, and a \$1.7 million increase in total economic output. Looking at the reduction sector, a 5% increase in the TAC from the 2017 baseline is estimated to increase total economic output (includes direct, indirect, and induced economic effects) by \$3.6 million in Northumberland county and add 77 full and part-time jobs. Interestingly, subsequent analysis of coastal county income and employment changes in response to changes in bait landings (not reduction landings) showed little effect, casting some doubt on the conclusion that adjustments in menhaden TAC consistently lead to changes in fishery income and employment in the bait fishery. It may also be that the magnitude of impact is dependent the size of the fishery in each state and the ability of fishermen to harvest other species.

A public opinion survey asked respondents to vote for or against hypothetical TAC changes which led to associated changes in fishery revenues, jobs, and ecosystem services. Results from this survey indicated that the public recognized management tradeoffs and were willing to trade some economic losses for improvements in ecosystem services. For example, survey respondents were willing to forgo \$10.5-12 million in ex-vessel revenue in exchange for positive impacts on gamefish. On the other hand, survey respondents were willing to accept \$4-7 million in additional ex-vessel revenue in exchange for negative impacts to gamefish. The range of results is due to the variety of model configurations used in the analysis. It is also important to note that respondent characteristics and attitudes (ie: knowledge of menhaden, perceived importance of fishery to state) significantly influenced voting patterns.

## **2.0 GOALS AND OBJECTIVES**

### **2.1 HISTORY OF MANAGEMENT**

The first coastwide Atlantic menhaden FMP was approved in 1981 (ASMFC 1981). The 1981 FMP did not recommend or require specific management actions, but provided a suite of options should they be needed. After the FMP was approved, a combination of additional state restrictions, the establishment of local land use rules, and changing economic conditions resulted in the closure of most reduction plants north of Virginia (ASMFC 1992). In 1988, ASMFC concluded that the 1981 FMP had become obsolete and initiated a revision to the plan.



The 1992 Plan Revision included a suite of objectives to improve data collection and promote awareness of the fishery and its research needs (ASMFC 1992). Under this revision, the menhaden program was directed by the Board, which at the time was composed of up to five state directors, up to five industry representatives, one representative from the National Marine Fisheries Service, and one representative from the National Fish Meal and Oil Association.

Amendment 1, passed in 2001, provided specific biological, social/economic, ecological, and management objectives for Atlantic menhaden. No recreational or commercial management measures were implemented as a result of Amendment 1. Representation on the Board was also revised in 2001 to include three representatives from each state in the management unit, including the state fisheries director, a legislator, and a governor's appointee. This restructuring brought the Board's composition in line with others at the Commission. The reformatted Board has passed two amendments and six addenda to the 1992 FMP revision.

Addendum I (2004) addressed biological reference points for menhaden, specified the frequency of stock assessments to be every three years, and updated the habitat section of the FMP.

Addendum II (2005) instituted a harvest cap on the reduction fishery in the Chesapeake Bay. This cap, based on average landings from 2000-2004, was established for the 2006 through 2010 fishing seasons. Addendum II also outlined a series of research priorities to examine the possibility of localized depletion of Atlantic menhaden in the Chesapeake Bay. They included: determining menhaden abundance in Chesapeake Bay; determining estimates of removal of menhaden by predators; exchanging of menhaden between bay and coastal systems; and conducting larval studies.

Addendum III (2006) revised the Chesapeake Bay Reduction Fishery Cap to 109,020 mt, which is an average of landings from 2001-2005. Implementation of the cap remained for the 2006 through 2010 fishing seasons. Addendum III also allowed a harvest underage in one year to be added to the next year's quota. As a result, the maximum cap in a given year was extended to 122,740 mt.

Addendum IV (2009) extended the Chesapeake Bay harvest cap three additional years (2011-2013) at the same levels as established in Addendum III.

Addendum V (2011) established a new F threshold and target rate based on maximum spawning potential (MSP) with the goal of increasing abundance, spawning stock biomass, and menhaden availability as a forage species.

Amendment 2, approved in December 2012, established a 170,800 mt total allowable catch (TAC) for the commercial fishery beginning in 2013. This TAC represented a 20% reduction from average landings between 2009 and 2011. The 2009-2011 time period was also used to allocate the TAC among the jurisdictions. In addition, the Amendment established requirements for

timely reporting and required states to be accountable for their respective quotas by paying back any overages the following year. The amendment included provisions that allowed for the transfer of quota between jurisdictions and a bycatch allowance of 6,000 pounds per trip for non-directed fisheries that operated after a jurisdiction's quota has been landed. Further, it reduced the Chesapeake Bay reduction fishery harvest cap by 20% to 87,216 mt.

At its May 2015 meeting, the Board established an 187,880 mt TAC for the 2015 and 2016 fishing years. This represents a 10% increase from the 2013 and 2014 TAC. In October 2016, the Board approved a TAC of 200,000 mt for the 2017 fishing year, representing a 6.45% increase from the 2015 and 2016 fishing years.

In August 2016, the Board approved Addendum I which added flexibility to the current bycatch provision by allowing two licensed individuals to harvest up to 12,000 pounds of menhaden bycatch when working together from the same vessel using stationary multi-species gear. The intent of this Addendum was to accommodate cooperative fishing practices which traditionally take place in the Chesapeake Bay.

In May 2013, the Board approved Technical Addendum I which established an episodic events set aside program. This program set aside 1% of the coastwide TAC for the New England States (Maine through Connecticut) to harvest Atlantic menhaden when they occur in higher abundance than normal. In order to participate in the program, a state must reach its individual quota prior to September 1, require daily harvester reporting, and implement a trip limit no greater than 120,000 pounds. At its October 2013 meeting, the Board extended the episodic event set aside program through 2015, adding a re-allocation provision that distributes unused set aside as of October 31 to all states based on the same allocation percentages included in Amendment 2. At its May 2016 meeting, the Board again extended the episodic events program until final action on Amendment 3 and added New York as an eligible state to harvest under the program.

At its February 2014 meeting, the Board passed a motion to manage the menhaden cast net fisheries under the bycatch allowance for 2014 and 2015, with the states bearing responsibility for reporting. At its November 2015 meeting, the Board approved a motion to continue the management of cast net fisheries under the bycatch allowance for 2016. In February 2017, the Board extended management of the cast net fishery under the bycatch provision until implementation of Amendment 3.

## **2.2 PURPOSE AND NEED FOR ACTION**

The 2015 Atlantic Menhaden Benchmark Stock Assessment and Peer Review Report categorized the development of ERPs as a high priority for management of the species. Currently, the stock is assessed with single-species biological reference points, which are defined in the 2015 Stock Assessment. While the stock assessment accounts for natural mortality, this factor alone may not adequately account for the unique and significant ecological services that menhaden provide, or how changes in the population of predator

species may impact the abundance of menhaden. Menhaden-specific ERPs are intended to consider the multiple roles that menhaden play, both in supporting fisheries for human use and their role in the marine ecosystem.

In addition, Amendment 2 requires quota allocations to be revisited every three years. The Atlantic menhaden quota is currently allocated to Atlantic coast jurisdictions based on average landings between 2009 and 2011. In revisiting the allocations, the Board decided to investigate different allocation methods and timeframes given concerns that the Amendment 2 allocation method does not strike a balance between gear types and regions, as well as current and future harvest opportunities. Some states also expressed concerns about unreported landings during the baseline years and the administrative burden of managing small allocations, the cost of which may outweigh the value of the fishery they are allocated.

### **2.3 GOAL**

Amendment 3 replaces Amendment 2 to the 1981 FMP for Atlantic Menhaden.

The goal of Amendment 3 is to manage the Atlantic menhaden fishery in a manner which equitably allocates the resource's ecological and economic benefits between all user groups. The primary user groups include those who extract and utilize menhaden for human use, those who extract and utilize predators which rely on menhaden as a source of prey, and those whose livelihood depends on the health of the marine ecosystem. Pursuit of this goal will require a holistic management approach which allocates the resource in a method that is biologically, economically, and socially sound in order to protect the resource and those who benefit from it.

### **2.4 OBJECTIVES**

The following objectives are intended to support the goal of Amendment 3.

- Maintain the Atlantic menhaden stock at levels which sustain viable fisheries and support predators which depend on the forage base.
- Ensure sufficient menhaden spawning stock biomass to prevent stock depletion and recruitment failure.
- Construct regulations based on the best available science and coordinate management efforts among the Atlantic coast jurisdictions.
- Develop a management program which ensures fair and equitable access to the fishery for all regions and gear types.
- Support a greater understanding of menhaden biology and multi-species interactions that may bear upon predator-prey dynamics.
- Maintain existing culture and social features of the fishery to the extent possible.

## 2.5 MANAGEMENT UNIT

The management unit for Amendment 3 is defined as the range of Atlantic menhaden within U.S. waters of the northwest Atlantic Ocean, from the estuaries eastward to the offshore boundary of the EEZ. This definition is consistent with recent stock assessments which treat the entire resource in U.S. waters of the northwest Atlantic as a single stock. For the purposes of this Amendment, the term “state” or “states” also includes the Potomac River Fisheries Commission.

### 2.5.1 Management Area

The management area for Amendment 3 shall be the entire Atlantic coast distribution of the resource from Maine through Florida.

## 2.6 REFERENCE POINTS

### 2.6.1 History of Reference Points

#### 2.6.1.1 Amendment 1 Reference Points

The reference points outlined in Amendment 1 (2001) were developed from the historic spawning stock per recruit (SSB/R) relationship. As such,  $F_{REP}$  was selected as the  $F_{threshold}$ , representing replacement level of stock, and  $F_{target}$  was based on  $F_{MAX}$ , representing the maximum fishing mortality before the process of recruitment overfishing begins. The Board also adopted a spawning stock biomass target, a proxy for  $B_{MSY}$  (the biomass that allows the fish stock to produce maximum sustainable yield), and a spawning stock biomass threshold.

#### 2.6.1.2 Addendum 1 Reference Points

Based on the 2003 Benchmark Stock Assessment for Atlantic menhaden, the reference points were modified per the recommendation of the TC (ASMFC 2004). The TC recommended using population fecundity (number of maturing or ripe eggs) as a more direct measure of reproductive output of the population compared to spawning stock biomass (the weight of mature females). For Atlantic menhaden, older menhaden release more eggs than younger menhaden per unit of female biomass. By using the number of eggs released, more reproductive importance is given to older fish in the population. The TC also recommended modifications to the fishing mortality ( $F$ ) target and threshold. Specifically, the TC recommended continued use of  $F_{REP}$  as the  $F_{threshold}$ , but estimated it using fecundity per recruit rather than the SSB per recruit. They also recommended that the  $F_{target}$  be based on the 75<sup>th</sup> percentile. This approach was consistent with the approach used for the  $F_{threshold}$ . For biomass (or egg) benchmarks, the TC recommended maintaining the approach used in Amendment 1.

#### 2.6.1.3 Addendum V Reference Points

In November 2011, Addendum V was approved, which established an interim fishing mortality threshold of  $F_{15\%MSP}$  and target of  $F_{30\%MSP}$ , where MSP is the maximum spawning potential.

#### **2.6.1.4 Amendment 2 Reference Points**

The Board adopted an interim biomass threshold of  $SSB_{15\%MSP}$  and target of  $SSB_{30\%MSP}$  to match the interim fishing mortality reference points adopted through Addendum V.

#### **2.6.1.5 2015 Benchmark Stock Assessment Reference Points**

As a part of the 2015 Stock Assessment, the TC recommended that the Board adopt reference points based on the maximum and median geometric mean fishing mortality rate for ages 2-4 during 1960-2012. The 1960-2012 time period represents a time with little to no restrictions on total harvest in which the population appears to have been sustainable given that the population did not experience collapse. Because the fisheries have dome-shaped selectivity, which varies by fleet over time, the age at full fishing mortality changes over time. Ages 2-4 represent the ages of fully selected fishing mortality rates depending upon the year and fishery (i.e., bait and reduction). The Board accepted these updated reference points following approval of the 2015 Stock Assessment for management use.

#### **2.6.1.6 2017 Stock Assessment Update**

Using the method outlined in the 2015 Stock Assessment (*Section 2.6.1.5*), the 2017 Stock Assessment Update determined the overfishing threshold and target to be  $F_{21\%MSP}$  and  $F_{36\%MSP}$ , respectively. The overfished threshold and target were calculated to be  $FEC_{21\%MSP}$  and  $FEC_{36\%MSP}$ , respectively.

### **2.6.2 ASMFC Multi-Species Management Efforts**

In May 2010, the Board tasked the Multi-Species Technical Committee (MSTC), along with the Atlantic Menhaden TC, with developing alternative reference points for menhaden that account for predation. These groups led to a reformation of the subcommittee that updated and refined the Multispecies Virtual Population Analysis (MSVPA). The MSVPA-X model generated a natural mortality matrix which could be input to the single-species menhaden assessment. While this approach was attempted for several Atlantic menhaden stock assessments, the Board tasked this group with developing ERPs for menhaden using multispecies models. This joint subcommittee was eventually renamed the Biological Ecological Reference Points Workgroup (BERP Workgroup) because model consideration for the Board task expanded beyond the MSVPA. The overarching goal of the BERP Workgroup is to develop menhaden-specific ERPs that account for the abundance of menhaden and the species role as a forage fish.

In the *Ecological Reference Points for Atlantic Menhaden* report, the BERP Workgroup presented a suite of preliminary ERP models and ecosystem monitoring approaches for feedback as part of the 2015 Benchmark Stock Assessment (Appendix E, SEDAR 40 Stock Assessment Report). In this report, the BERP Workgroup recommended the use of facilitated workshops to develop specific ecosystem and fisheries objectives to drive further development of ERPs for Atlantic menhaden. This Ecosystem Management Objectives Workshop (EMOW) contained a broad range of representation including Commissioners, stakeholders, and technical representatives to provide various perspectives on Atlantic menhaden management. The EMOW identified potential ecosystem goals and objectives that were reviewed and

approved by the Board. The BERP Workgroup then assessed the ability of each preliminary ERP model to address the identified management objectives and performance measures, and selected models accordingly.

Currently, the BERP Workgroup is evaluating this suite of multispecies models to ensure they are able to generate ERPs which meet as many management objectives as possible. One of the models under consideration is a Bayesian surplus production model with a time-varying population growth rate. This model estimates the trend in total Atlantic menhaden stock biomass and fishery exploitation rate by allowing the population growth rate to fluctuate annually in response to changing environmental conditions. The approach produces dynamic, maximum sustainable yield-based ERPs that account for the forage services menhaden provide. Another production model being evaluated is a Steele-Henderson model, which permits non-fisheries effects (predation and environmental) to be quantified and incorporated into the single-species stock assessments. As a result, fixed and time-varying ecological thresholds can be estimated. This approach is not intended to replace more complex multispecies ecosystem assessment models, but rather to expand the scope of the single-species assessments to include the effects of fishing, predation, and environmental effects. Finally, a multispecies statistical catch-at-age model is being considered. In this approach, single-species models are linked using trophic calculations to provide a predator-prey feedback between the population models. The model is believed to be an improvement from the existing MSVPA because the use of statistical techniques may help to estimate many of the model parameters while incorporating the inherent uncertainty in the data. An external model being considered is an Ecopath with Ecosim model; however, the application of this model is to explore tradeoffs, not quota setting advice. For example, this model could be used to project fishery performance under the various reference points produced from the other multi-species models.

The development of menhaden-specific ERPs is expected to continue over the next couple of years. In 2017, the BERP Workgroup will finish their review of the merits of each modeling approach and decide which models are appropriate frameworks for menhaden ERPs. In 2018, the BERP Workgroup will hold data workshops to collect, select, and standardize the data that will be used as model inputs. This will include data that pertains not only to menhaden abundance but also the abundance of species such as bluefish, striped bass, and other prey species. In early 2019, assessment workshops will be held to review preliminary model results and in the fall of 2019, the multi-species models will be peer-reviewed, along with the current single-species model, which has traditionally been used for menhaden management. This will allow for direct comparison between the two modeling approaches. Table 4 outlines the current schedule for the BERP Workgroup.

#### **2.6.4 Definition of Overfishing and Overfished/Depleted**

The Board will evaluate the current status of the Atlantic menhaden stock with respect to its reference points. Changes to the reference points can be made through Board action following a peer-reviewed stock assessment or through Adaptive Management (*Section 4.6*). The Board

can adopt any advice of the stock assessment report or peer review report. Reference points can be recalculated during an update or benchmark stock assessment.

Threshold reference points are the basis for determining stock status (i.e., whether overfishing is occurring or if a stock is overfished). When the fishing mortality rate ( $F$ ) exceeds the  $F_{\text{threshold}}$ , then overfishing is occurring. This means that the rate of removal of fish by the fishery exceeds the ability of the stock to replenish itself. When the biomass or reproductive output (measured as population fecundity) falls below the threshold, then the stock is overfished, meaning there is insufficient mature female biomass or egg production to replenish the stock.

Reference points will direct the Board on when additional management measures are needed in the menhaden fishery. If the current  $F$  exceeds the threshold level, the Board will take steps to reduce  $F$  to the target level. If current  $F$  exceeds the target, but is below the threshold, the Board may consider steps to reduce  $F$  to the target level. If current  $F$  is below the target  $F$ , then no action is necessary to reduce  $F$ . Similarly, if the current biomass/fecundity is below the threshold level, the Board will take steps to increase biomass/fecundity to the target level; if current biomass/fecundity is below the target, but above the threshold, the Board may consider steps to increase biomass/fecundity to the target level. If current biomass/fecundity is above the target biomass/fecundity, then no action is necessary to increase biomass/fecundity.

### **2.6.5 Reference Points**

The Atlantic menhaden stock is managed with single-species reference points, based on the maximum and median geometric mean fishing mortality rate for ages 2-4 during 1960-2012, while the BERP Workgroup continues to develop menhaden-specific ERPs. Using this method, the 2017 Stock Assessment Update found the fishing mortality target and threshold for Atlantic menhaden to be  $F_{36\%MSP}$  and  $F_{21\%MSP}$  and the corresponding fecundity target and threshold for Atlantic menhaden to be  $FEC_{36\%MSP}$  and  $FEC_{21\%MSP}$ . As of 2016, the terminal year of the 2017 Stock Assessment Update, the stock is not overfished and overfishing is not occurring (Figures 6 and 7). The expected timeline for completion of menhaden-specific ERPs is late 2019, as outlined in *Section 2.6.2*.

### **2.6.6 Stock Rebuilding Program**

If it is determined that the Atlantic menhaden resource is experiencing overfishing or has become overfished, the Board will initiate and develop a rebuilding schedule.

## **3.0 MONITORING PROGRAM SPECIFICATION**

In order to achieve the goals and objectives of Amendment 3, the collection and maintenance of quality data is necessary.

### **3.1 COMMERCIAL CATCH AND LANDINGS PROGRAM**

The reporting requirements for the Atlantic menhaden fishery are based on Captains Daily Fishing Reports (CDFRs) and a Board approved method for timely quota monitoring (*Section 3.1.2*). ASMFC, National Marine Fisheries Service (NMFS), US Fish & Wildlife Service (USFWS), the New England, Mid-Atlantic, and South Atlantic Fishery Management Councils, and all the Atlantic coastal states have developed a coastwide fisheries statistics program called the Atlantic Coastal Cooperative Statistics Program (ACCSP). A minimum set of reporting requirements for fishermen and dealers has been developed as the standard for data collection on the Atlantic coast.

#### **3.1.1 Reduction Fishery Catch Reporting Process**

Daily vessel unloads (in thousands of standard fish) are emailed to NMFS each day. Harvest by the Reedville menhaden fleet is reported through Captains Daily Fishing Reports (CDFRs), which are deck logbooks that are maintained by the Virginia reduction purse-seine vessels. CDFRs are an important tool to monitor reduction harvest in the Chesapeake Bay so that harvest does not exceed the Chesapeake Bay Reduction Fishery Cap (*Section 4.3.7*).

Total removals by area are calculated at the end of the fishing season. At-sea catches from the CDFRs are summed by vessel, and compared to total vessel unloads from company catch records. Individual at-sea sets are then multiplied by an adjustment factor (company records/at-sea estimates). Adjusted catches by set are converted to mt, and summed by fishing area. Catch totals are reported by ocean fishing areas and the Chesapeake Bay Bridge Tunnel delineates catches inside and outside of the Chesapeake Bay.

A NMFS port agent samples purse-seine catches dockside in Reedville, VA throughout the fishing season (May through December), providing data for age composition determination.

#### **3.1.2 Bait Fishery Catch Reporting Process**

Quota monitoring is dependent upon the strength of state specific monitoring programs. As a part of Amendment 2, each state was required to implement a timely quota monitoring system in order to maintain menhaden harvest within the TAC and minimize the potential for overages. Table 5 outlines the reporting requirements of each jurisdiction under Amendment 2.

In order to monitor the menhaden quota allocations prescribed in Amendment 3, states must, at a minimum, maintain the current quota monitoring system in place. States must require menhaden purse seine and bait seine vessels (or snapper rigs) to submit CDFR's or similar daily trip level reports. Mandatory reporting requirements will be reviewed as a part of the annual fishery review (*Section 5.3 Compliance Reports*). States which habitually exceed their quota should assess the effectiveness of their current reporting program and make changes as necessary (e.g. increase the frequency of reporting). It is recommended that states collect the following ACCSP data elements: (1) trip start date; (2) vessel identifier; (3) individual fisherman



identifier; (4) dealer identification; (5) trip number; (6) species; (7) quantity; (8) units of measurement; (9) disposition; (10) county or port landed; (11) gear; (12) quantity of gear; (13) number of sets; (14) fishing time; (15) days/hours at sea; (16) number of crew; and (17) area fished. See Tables 5 and 6 for details on these data elements.

Per *Section 4.5.3.1*, New Hampshire, Pennsylvania, South Carolina, and Georgia are exempt from timely quota monitoring.

Any changes to a state's current quota monitoring program must be reviewed by the PRT and approved by the Board.

#### **3.1.2.1 Incidental Catch Reporting**

Landings of menhaden under *Section 4.3.5: Incidental Catch and Small Scale Fisheries* must be reported as a part of the Annual Compliance Report. Landings of menhaden after the directed fishery has closed are required to be reported through the timely reporting system outlined in *Section 3.1.2*.

#### **3.1.2.2 Episodic Events Reporting**

States participating in the Episodic Events Program (*Section 4.3.6*) must implement daily trip level harvester reporting. Each state must track landings and submit weekly reports to ASMFC staff. As the set aside is used, staff may request states submit reports on a more frequent basis, in order to avoid overages.

### **3.2 RECREATIONAL FISHERY CATCH REPORTING PROCESS**

The Marine Recreational Information Program (MRIP) contains estimated Atlantic menhaden catches from 1981-2016. Recreational harvest of menhaden was previously collected through the Marine Recreational Fisheries Statistics Survey (MRFSS), which was a recreational data collection program used from 1981-2003. The MRFSS program was replaced by MRIP in 2004 and was designed to provide more accurate and timely reporting as well as greater spatial coverage. The MRFSS and MRIP programs were simultaneously conducted in 2004-2006 and this information was used to calibrate past MRFSS recreational harvest estimates against MRIP recreational harvest estimates. Recreational catches of menhaden were downloaded from <http://www.st.nmfs.noaa.gov/st1/recreational/queries/index.html> using the query option.

An online description of MRIP survey methods can be found here: <http://www.st.nmfs.noaa.gov/recreational-fisheries/index#meth>

### **3.3 FOR-HIRE FISHERY CATCH REPORTING PROCESS**

ACCSP standards allow for the use of MRIP for-hire sampling or a census system such as ACCSP's eTrips. For-hire sampling provides bimonthly data but eTrips can provide data within a 24-hour period.

### **3.4 SOCIAL AND ECONOMIC COLLECTION PROGRAMS**

Data on a number of variables relevant to social and economic dimensions of menhaden fisheries are collected through existing ACCSP data collection programs and MRIP; however, no explicit mandates to collect socioeconomic data for menhaden currently exist. In addition to landed quantities, commercial menhaden harvesters and dealers may report ex-vessel prices or value, fishing and landing locations, landing disposition, and a variety of measures capturing fishing effort. MRIP regularly collects information on recreational fishing effort and landings, and occasionally gathers socioeconomic data on angler motivations and expenditures; however, menhaden which are caught and then subsequently used as recreational bait are not always effectively captured in the survey.

A recent socioeconomic study of commercial menhaden fishery was conducted to collect information on the bait and reduction sectors and help inform management decisions (Whitehead and Harrison 2017). As a part of the study, researchers interviewed 43 industry members from both the bait and reduction fisheries to better understand gear usage, substitute products, market changes, and fishing community characteristics. Those interviewed include commercial fishermen, bait dealers, bait shop owners, and reduction facility managers. The study also performed county level, state-level, and coastwide analysis on menhaden landings and ex-vessel value to determine socioeconomic trends in the fishery. In addition, an economic impact analysis was conducted to determine effects (including direct, indirect, and induced impacts) from changes to the TAC. Finally, a public opinion survey was conducted in eight states to determine the public's tradeoff between economic increases and ecosystem services. Over 2,000 members of the public participated in the survey.

While this socio-economic study helped provided a more complete picture of the menhaden commercial fishery, information on factors such as fishing costs, employment levels, processing and distribution are not collected regularly for commercial menhaden fisheries. This information would be useful for future socioeconomic analyses.

### **3.5 BIOLOGICAL DATA COLLECTION PROGRAMS**

#### **3.5.1 Fishery-Dependent Data Collection**

##### ***3.5.1.1 Reduction Fishery***

The Beaufort Laboratory of the Southeast Fisheries Science Center conducts biological sampling of the Atlantic menhaden reduction fishery (Smith 1991). The program began sampling in the Mid-Atlantic and Chesapeake Bay areas during 1952-1954 and has continued uninterrupted since 1955, sampling the entire range of the Atlantic menhaden purse-seine reduction fishery. Detailed descriptions of the sampling procedures and estimates gathered through the program are cited in Smith (1991).

The biological data, or port samples, for length- and weight-at-age are available from 1955 through 2016, and represents one of the longest and most complete time series of fishery data

in the nation. The NMFS employs a full-time port agent at Reedville, VA to sample catches throughout the fishing season for age and size composition of the reduction catch (Table 8).

### **3.5.1.2 Bait Fishery**

#### **10 Fish Sampling**

Each state in the New England (ME, NH, MA, RI, CT) and Mid-Atlantic (NY, NJ, DE) regions are required to collect one 10-fish sample (age and length) per 300 mt landed for bait purposes. The TC recommends collecting the samples by gear type. One 10-fish sample consists of 10 fish collected from a distinct landing event (e.g., purse seine trip, pound net set). Each collection of 10 fish is from an independent sampling event; multiple 10-fish samples should not be collected from the same landing event.

Each state in the Chesapeake Bay (MD, PRFC, VA) and South Atlantic (NC, SC, GA, FL) regions are required to collect one 10-fish sample (age and length) per 200 mt landed for bait purposes. The TC recommends collecting the samples by gear type. One 10-fish sample consists of 10 fish collected from a distinct landing event (e.g., purse seine trip, pound net set). Each collection of 10 fish is an independent sampling event; multiple 10-fish samples should not be collected from the same landing event.

*De minimis* states are not required to conduct fishery-dependent biological sampling in the menhaden fishery (*Section 4.5.3: De Minimis Fishery Guidelines*).

Table 9 shows the number of 10-fish samples collected by the jurisdictions in 2016 as well as the number of age and length samples collected.

#### **Pound Net Monitoring**

Catch information from pound net fisheries is critical to determine changes in the relative abundance of adult menhaden along the east coast. At a minimum, each state with a pound net fishery must collect catch and effort data elements for Atlantic menhaden including total pounds (lbs.) landed per day and number of pound nets fished per day. A pound net fishery includes floating fish traps and fishing weirs. These are harvester trip level ACCSP data requirements. In order to characterize selectivity of this gear in each state, a goal of collecting five 10-fish samples annually is recommended. One 10-fish sample consists of 10 fish collected from a distinct landing event (e.g., pound net set). Each collection of 10 fish is an independent sampling event; multiple 10-fish samples should not be collected from the same landing event.

### **3.5.2 Fishery-Independent Data Collection**

Assessment of the Atlantic menhaden stock requires information from a variety of fishery-independent surveys along the coast. As a part of the 2015 Benchmark Stock Assessment and the 2017 Stock Assessment Update, sixteen fishery-independent surveys were used to create a Juvenile Abundance Index, seven surveys were used to create a Northern Adult Index, and two surveys were used to create a Southern Adult Index. For many of the surveys used, the primary objective is to measure the abundance of species other than menhaden; however the bycatch

of menhaden in these surveys can provide important information regarding stock conditions. Table 10 shows the surveys used to assess the status of Atlantic menhaden in the 2015 and 2017 stock assessments. State and federal agencies and academic institutions conducting these surveys are encouraged to continue them into the future to allow for the best possible assessment of Atlantic menhaden recruitment.

### **3.5.3 Observer Programs**

As a condition of state and/or federal permitting, many vessels are required to carry at-sea observers when requested. A minimum set of standard data elements are to be collected through the ACCSP at-sea observer program (refer to the ACCSP Program Design document for details). Specific fisheries priorities will be determined by the Discard/Release Prioritization Committee of ACCSP.

## **3.6 ASSESSMENT OF STOCK CONDITION**

An Atlantic menhaden stock assessment will be performed every three years by the Stock Assessment Subcommittee (SAS). The TC and Advisory Panel (AP) will meet to review the stock assessment and all other relevant data sources. The stock assessment report shall follow the general outline as approved by the Interstate Fisheries Management Program Policy Board (ISFMP Policy Board) for all Commission-managed species. In addition to the general content of the report as specified in the outline, the stock assessment report may also address the specific topics detailed in the following sections. Specific topics in the stock assessment may change as the SAS continues to provide the best model and metrics possible to assess the Atlantic menhaden stock.

### **3.6.1 Assessment of Population Age/Size Structure**

Estimates of Atlantic menhaden age and size structure are monitored based on results of the stock assessment. Improvements to data sources and modeling assumptions during the 2015 Benchmark Stock Assessment, such as increased sampling of the bait fishery, addition of several surveys, and incorporation of dome shaped selectivity, greatly improved the understanding of size and age distribution of the menhaden stock.

### **3.6.2 Assessment of Annual Recruitment**

Recruitment of Atlantic menhaden is currently estimated through two primary methods. The first is the estimate of recruitment to age-1 from the stock assessment model. The second is the examination of various fishery-independent data sources, including the juvenile abundance indices that are integrated in to the statistical modeling process.

### **3.6.3 Assessment of Fecundity**

Population fecundity, a measure of total egg production by the population, is estimated from the stock assessment model every three years. Given egg production is not linearly related to female weight, indices of egg production may provide a better measures of reproductive output of a stock.

### **3.6.4 Assessment of Fishing Mortality**

Fishing mortality rates are estimated by the stock assessment model. Currently, fishing mortality rates are estimated for the reduction fishery, the bait fishery, and the recreational fishery.

## **3.7 STOCKING PROGRAM**

There is currently no stocking program in place for Atlantic menhaden.

## **4.0 MANAGEMENT PROGRAM**

### **4.1 RECREATIONAL FISHERY MANAGEMENT MEASURES**

No recreational fishery management measures are included in this amendment. Recreational landings of Atlantic menhaden are currently believed to be insignificant in terms of total harvest. Therefore, regulation of the recreational fishery is unnecessary at this time. The Board has the option of considering management changes to the recreational fishery through a future addendum, as detailed in Adaptive Management (*Section 4.6*).

### **4.2 FOR-HIRE FISHERIES MANAGEMENT MEASURES**

No management measures for the for-hire fisheries are included in this amendment. The Board has the option of considering management changes to the recreational fishery through a future addendum, as detailed in Adaptive Management (*Section 4.6*).

### **4.3 COMMERCIAL FISHERY MANAGEMENT MEASURES**

#### **4.3.1 Total Allowable Catch**

The Board will set an annual or multi-year TAC based on the following procedure.

The Atlantic Menhaden TC will annually review the best available data including, but not limited to, commercial and recreational catch/landing statistics, current estimates of fishing mortality, stock status, survey indices, assessment modeling results, and target mortality levels. The TC will calculate TAC options based on the Board selected method of setting a TAC (see *Section 4.3.1.1*). The Board will set an annual TAC through Board action, with the option of setting a multi-year TAC.

#### **4.3.1.1 TAC Setting Method**

The Board will set the TAC based on the best available science (e.g., projection analysis); however, if projections are not recommended for use by the TC, the Board will set a quota based on an ad-hoc approach. This could include the ad-hoc approach used by the Regional Fishery Management Councils (Berkson et al., 2011) or an ad-hoc approach that is informed by the Commission's ongoing development of a Risk and Uncertainty Policy.

##### Projection Analysis Used to Set a TAC (Preferred Method)

Projection analysis is conducted to explore a range of TAC alternatives and determine the percent risk of exceeding the  $F_{\text{target}}$  or the  $F_{\text{threshold}}$ . Monte Carlo Bootstrap runs of the base model run are used as the basis for the projection analysis. The Board can request specific TAC levels to be explored through the projection analysis or specify the probability level of the fishing mortality rate being between the  $F_{\text{target}}$  and  $F_{\text{threshold}}$ . Important assumptions of the projection analysis are that it does not include structural (model) uncertainty, fisheries are assumed to continue fishing at their estimated current proportions of total effort, and mortality is assumed to occur throughout the year.

##### Ad-hoc Approach to Setting a TAC

Should the TC not recommend the use of projection analysis to inform the specification process, an ad hoc approach used by several regional Fishery Management Councils can be adopted. This ad-hoc method is typically used for species with poor assessment data or uncertain stock assessment results. In these situations, Councils use landings/catch data as the only reliable means of setting harvest limits. A document entitled "Calculating Acceptable Biological Catch for Stocks that Have Reliable Catch Data Only (Only Reliable Catch Stocks – ORCS)" was published, and serves as guidance to set interim removal levels under these conditions (Berkson et al., 2011).

In summary, the ORCS approach estimates an overfishing limit (OFL) by first identifying an estimate of historic catch, called the 'catch statistic'. This is typically based off of the mean or median of landings over a specific number of years. The catch statistic is then multiplied by a scalar, which is identified based on the status of the stock and the risk of overexploitation. This scalar can be greater than 1 for species which are not heavily exploited. The resulting value is a proxy for the OFL.

To account for the Council's risk tolerance when setting an Allowable Biological Catch, the resulting value is then multiplied by a precautionary scalar that ranges from 0 to 1. The appropriate multiplier is cautiously decided based on factors such as life history, ecological function, stock status, and an understanding of exploitation. A lower scalar represents a lower level of risk and a more conservative approach to the management of the species. In contrast, a higher scalar indicates a higher level of management risk, but may be appropriate if the stock has a low risk of overexploitation.

Should this process be adopted in the Atlantic menhaden fishery, the TC will recommend a catch statistic and a scalar that is based on the stock’s risk of overexploitation. The Board will then decide on the second scalar which represents the Board’s level of risk tolerance.

**4.3.1.2 Indecision Clause**

If the Board is unable to approve a TAC for the subsequent fishing year by December 31<sup>st</sup> of the current year, the TAC for the subsequent year will be set at the current year’s TAC.

**4.3.2 Quota Allocation**

The Atlantic menhaden commercial TAC is managed with jurisdictional quotas. Each jurisdiction is allocated a 0.5% fixed minimum quota and the remainder of the TAC is allocated based on a three-year average of historic landings from 2009-2011 (see table below). States have the responsibility to close their directed commercial fisheries once their quota (or a percentage thereof) has been reached. Every state is required to submit their official closure notice to the Commission as a part of annual compliance reports.

States, on an annual basis, have the option to relinquish part, or all, of their fixed minimum quota. States must declare, to the FMP Coordinator, any relinquished quota by December 1<sup>st</sup> of the preceding fishing year and the amount that is being relinquished. Any quota that is relinquished by a state will be redistributed to the other jurisdictions (i.e. those which have not relinquished quota) based on historic landings from 2009-2011.

**Table 1.** Jurisdictional allocations under Amendment 3.

<b>State</b>	<b>Allocation (%)</b>
ME	0.52%
NH	0.50%
MA	1.27%
RI	0.52%
CT	0.52%
NY	0.69%
NJ	10.87%
PA	0.50%
DE	0.51%
MD	1.89%
PRFC	1.07%
VA	78.66%
NC	0.96%
SC	0.50%
GA	0.50%
FL	0.52%
<b>TOTAL</b>	<b>100.00%</b>

It is important to note that, at its August 2017 meeting, the Menhaden Board approved a proposal by New York to recalibrate their historic menhaden landings due to inconsistent

reporting prior to Amendment 2. In this proposal, New York compares average annual landings from 2009-2012 (a time period with inconsistent reporting) to average annual landings from 2013-2016 (a time period with greater reporting compliance). The difference between these two time periods (multiplier=2.9) is used to scale historic landings prior to 2013. The allocation percentages presented above are based on recalibrated landings for New York. The New York proposal can be found in Appendix 1.

#### **4.3.2.1 Overage Payback**

Any overage of a quota allocation is subtracted for that specific quota allocation in the subsequent year on a pound for pound basis. Overage determination is based on final allocations, including transfers if applicable. Overages will be subtracted from the subsequent year's quota following submission of state compliance reports. Should overages change as preliminary data is finalized, quotas will be re-adjusted accordingly.

#### **4.3.2.2 Allocation Revisit Provision**

Quota allocations will be revisited every three years following implementation of Amendment 3, or can be revisited at any time through the adaptive management process (*Section 4.6*).

#### **4.3.3 Quota Transfers**

Two or more regions or states, under mutual agreement, may transfer or combine their Atlantic menhaden quota. Transfers do not permanently affect state-specific shares of the coastwide quota, i.e., the state-specific allocation percentages remain fixed. Once quota has been transferred, the state receiving quota becomes responsible for any overages of their new quota (the receiving state's original quota plus any quota transferred). Overages will be deducted from the corresponding state's quota the following fishing season.

All transfers require a donor state (giving the quota) and a receiving state (receiving the quota). Transfers cannot be greater than the amount of quota allocated to the donor region or state for that fishing year. In order to initiate a transfer, a member of each state agency involved must submit a signed letter to the Commission identifying the involved parties, the pounds of quota to be transferred, and justification for the transfer (i.e. an expected quota overage, safe harbor landings, etc). The Executive Director, the ISFMP Director, and/or the FMP Coordinator will review all transfer requests. The transfer becomes final upon receipt of signed letters from the Commission to the donor and receiving parties. In the event that the donor or receiving member of a transaction subsequently wishes to change the amount of the transfer, both parties have to agree to the change and submit letters to the Commission which are signed by a member of the state agency. Parties participating in a quota transfer may add a provision which notes that if the donor state or region incurs an overage in the current fishing year due to the transfer, the overage will be accommodated and paid back by the receiving state in the subsequent year.



If a state receives multiple requests to transfer quota at the same time, it is recommended that the state considers the requests in the order in which they were received. Transfer requests intended to resolve issues other than quota overages (i.e. safe harbor) may need to be addressed ahead of the order in which they were received.

#### **4.3.4 Quota Rollovers**

Unused quota may not be rolled over from one fishing year to the next.

#### **4.3.5 Incidental Catch and Small Scale Fisheries**

After a quota allocation is met for a given jurisdiction, the fishery moves to an incidental catch fishery in which small-scale gears and non-directed gear types may land up to 6,000 pounds of menhaden per trip per day. Two authorized individuals, working from the same vessel fishing stationary multi-species gear, are permitted to work together and land up to 12,000 pounds from a single vessel – limited to one vessel trip per day. A trip is based on a calendar day such that no vessel may land menhaden more than once in a single calendar day. The use of multiple carrier vessels per trip to offload any bycatch exceeding 6,000 pounds of Atlantic menhaden is prohibited.

For the purposes of this Amendment, small-scale gears include cast nets, traps (excluding floating fish traps), pots, haul seines, fyke nets, hook and line, bag nets, hoop nets, hand lines, trammel nets, bait nets, and purse seines which are smaller than 150 fathom long and 8 fathom deep. Non-directed gears include pound nets, anchored/stake gillnets, drift gill net, trawls, fishing weirs, fyke nets, and floating fish traps. Stationary multi-species gears are defined as pound nets, anchored/stake gill nets, fishing weirs, floating fish traps, and fyke nets. Tables 11 and 12 show landings under the current bycatch provision from 2013-2016.

Landings under the incidental catch provision will be reported to the Board as a part of the annual FMP Review (*Section 5.3: Compliance Report*). Should a specific gear type show a continued and significant increase in landings under the incidental catch provision, or it becomes clear that a non-directed gear type is directing on menhaden under the incidental catch provision, the Board has the authority, through Adaptive Management (*Section 4.6*), to alter the trip limit or remove that gear from the incidental catch provision.

#### **4.3.6 Episodic Events Set Aside Program**

1% of the TAC is set aside for episodic events, which are defined by any instance in which a qualified state has reached its annual quota allocation available to them prior to September 1 and the state can prove the presence of unusually large amounts of menhaden in its state waters. The goal of the set aside is to add flexibility to the management of the species so that states can harvest menhaden during episodic events, reduce discards, and prevent fish kills. Eligibility to participate in the episodic events set aside program is reserved for the states of

Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, and New York. Landings per year under the set aside can be found in Table 13.

#### **4.3.6.1 Mandatory Provisions**

In order for an eligible state to participate in the episodic events set aside program, states must implement the following provisions.

1. Participating states must implement daily trip level harvester reporting. Each state must track landings and submit weekly reports to ASMFC staff. Should several states be approved to participate in the episodic event set aside program, ASMFC staff may require more frequent reporting to ensure the set aside is not exceeded.
2. Episodic events harvest and landings must be restricted to state waters of the jurisdiction approved to participate in the set aside.
3. Participating states must implement a maximum daily trip limit no greater than 120,000 pounds/vessel. A daily trip is defined by a calendar day such that no vessel harvesting under the episodic events program may land menhaden twice in a single calendar day.

#### **4.3.6.2 Declaring Participation**

A state must apply to participate in the episodic events program prior to September 1<sup>st</sup>. In order to apply, a state must send a letter to the ASMFC Executive Director, ISFMP Director, and FMP Coordinator declaring interest in harvesting under the set aside. The letter must demonstrate the following:

1. The state has implemented the mandatory provisions stated in Section 4.3.6.21.
2. The applying state has fully harvested its annual quota allocation prior to September 1.
3. The state has unusually large amounts of menhaden in its state waters. This can be demonstrated through:
  - Surveys (aerial, seine) which indicate high biomass;
  - Landings reports which indicate an unusually high rate of menhaden harvest at the time of declaration into the set aside;
  - Or information highlighting the potential for fish kills, associated human health concerns, and the ability of harvest under the set aside to reduce or eliminate the fish kill.
4. The state has not declared *de minimis* status. If a qualifying state was previously granted *de minimis* status, it will lose that status and will need to collect biological data and catch and effort data for an adult index as required by Section 3.5: *Biological Data Collection Programs*.

Once the application letter is received by ASMFC staff, the PRT will review the state's compliance with the requirements of the episodic events set aside program. Once verified, ASMFC will send a letter notifying the state that it can harvest menhaden under the set aside. Only harvest that occurs on or after the date of the aforementioned notification letter, and prior to the states eligibility ending, will be considered episodic event set aside harvest. ASMFC staff will also notify the Board when any state is approved to harvest under the set aside.

#### **4.3.6.3 Procedure for Unused Set Aside**

If an episodic event is not triggered by September 1 in any state, the unused set aside quota will be rolled into the overall TAC on September 1 and redistributed based on the allocation method and timeframe selected in *Section 4.3.2*. If an episodic event is triggered, any unused set aside as of October 31<sup>st</sup> of each year will be redistributed based on the allocation method and timeframe selected in *Section 4.3.2*.

#### **4.3.6.4 Procedure for Set Aside Overages**

If the episodic event set aside is exceeded, any overages will be deducted from the next year's episodic event set aside amount. Unused quota from a region or state can be transferred to the set aside to reduce an overage.

#### **4.3.7 Chesapeake Bay Reduction Fishery Cap**

The annual total allowable harvest from the Chesapeake Bay by the reduction fishery is limited to no more than 51,000 mt. The intent of the Cap is to prevent all of the reduction fishery harvest from occurring in the Chesapeake Bay, a critical nursery area for Atlantic menhaden. Harvest for reduction purposes shall be prohibited within the Chesapeake Bay when 100% of the cap is harvested from Chesapeake Bay, which is defined as areas shoreward of the Chesapeake Bay Bridge Tunnel. Harvest above the Cap in any given year will be deducted from the next year's allowable harvest. Furthermore, unused quota from a region or state cannot be transferred to the Cap to reduce an overage. Any amount of un-landed fish under the Cap cannot be rolled over into the subsequent year. As a result, the Cap in a given year cannot exceed 51,000 mt.

### **4.4 HABITAT CONSERVATION AND RESTORATION RECOMMENDATIONS**

In order to ensure the productivity of populations, each state should identify and protect critical nursery areas for Atlantic menhaden within its boundaries. Such efforts should inventory historical habitats, identify habitats presently used by menhaden, and impose or encourage measures to retain or increase the quantity and quality of Atlantic menhaden habitat.

#### **4.4.1 Preservation of Existing Habitat**

States should provide inventories and locations of critical Atlantic menhaden habitat to other state and federal regulatory agencies. Regulatory agencies should be advised on the types of threats to Atlantic menhaden populations and recommended measures that should be employed to avoid, minimize or eliminate any threat to current habitat extent or quality.

#### **4.4.2 Habitat Restoration and Improvement**

While Atlantic menhaden appear to be utilizing the bulk of their historic nursery areas, water quality in these areas should be maintained or improved, if impaired, to prevent hypoxic fish

kills and minimize the threat of increased mortality due to disease and parasitism. Protection of wetlands will protect and improve menhaden habitat.

#### **4.4.3 Avoidance of Incompatible Activities**

Federal and state fishery management agencies should take steps to limit the introduction of compounds which are known, or suspected, to accumulate in any animal species' tissue and which pose a threat to human health or any animals' health.

Each state should establish windows of compatibility for activities known or suspected to adversely affect Atlantic menhaden life stages and their habitats, such as navigational dredging, inlet modifications, and dredged material disposal, and notify the appropriate construction or regulatory agencies in writing.

Projects involving water withdrawal from nursery habitats (e.g. power plants, irrigation, water supply projects) should be scrutinized to ensure that adverse impacts resulting from larval/juvenile impingement, entrainment, and/or modification of flow, temperature and salinity regimes due to water removal, will not adversely impact estuarine dependent species, including Atlantic menhaden, especially early life stages.

Each state which contains Atlantic menhaden nursery areas within its jurisdiction should develop water use and flow regime guidelines which are protective of these nursery areas and which will ensure to the extent possible, the long-term health and sustainability of the stock.

#### **4.4.4 Fishery Practices**

The use of any fishing gear or practice which is documented by management agencies to have an unacceptable impact on Atlantic menhaden (e.g. habitat damage, bycatch mortality) should be prohibited within the effected essential habitats.

### **4.5 ALTERNATIVE STATE MANAGEMENT REGIMES**

States are required to obtain prior approval from the Board of any changes to their management program for which a compliance requirement is in effect. Changes to non-compliance measures must be reported to the Board but may be implemented without prior Board approval. A state can request permission to implement an alternative management measure to any mandatory compliance measure only if that state can show, to the Board's satisfaction that its alternative proposal will have the same conservation value as the measure contained in this amendment or any addenda prepared under Adaptive Management (*Section 4.6*). States submitting alternative proposals must demonstrate that the proposed action will not contribute to overfishing of the resource. All changes to a state's plan must be submitted in writing to the Board and to the Commission as part of the Annual Compliance Reports.

#### **4.5.1 General Procedures**

A state may submit a proposal for a change to its regulatory program or any mandatory compliance measure under this amendment to the Commission. Such changes shall be submitted to the Chair of the Plan Review Team (PRT), who shall distribute the proposal to appropriate groups, including the Board, the PRT, the TC, and the AP.

The PRT is responsible for gathering the comments of the TC and the AP. The PRT is also responsible for presenting these comments to the Board for decision.

The Board will decide whether to approve the state proposal for an alternative management program if it determines that it is consistent with the target fishing mortality rate applicable as well as the goals and objectives of this amendment.

In order to maintain consistency within a fishing season, new rules should be implemented prior to the start of the fishing season. Given the time needed for the TC, AP, and Board to review the proposed regulations, as well as the time required by an individual state to promulgate new regulations, it may not be possible to implement new regulations for the on-going fishing season. In this case, new regulations should be effective at the start of the following season after a determination to do so has been made.

#### **4.5.2 Management Program Equivalency**

The TC, under the direction of the PRT, will review any alternative state proposals under this section and provide its evaluation of the adequacy of such proposals to the Board. The PRT can also ask for reviews by the Law Enforcement Committee (LEC) or the AP.

#### **4.5.3 *De Minimis* Fishery Guidelines**

The ASMFC Interstate Fisheries Management Program Charter (ISFMP Charter) defines *de minimis* as “a situation in which, under the existing condition of the stock and scope of the fishery, the conservation and enforcement actions taken by an individual state would be expected to contribute insignificantly to a coastwide conservation program required by a Fishery Management Plan or amendment,” (ASMFC 2016).

A state can apply annually for *de minimis* status if a state does not have a reduction fishery, following the procedure in *Section 4.5.3.2*. To be eligible for *de minimis* consideration in the bait fishery, a state must prove that its commercial bait landings in the most recent two years for which data are available did not exceed 1% of the coastwide bait landings.

##### **4.5.3.1 *Plan Requirements if De Minimis Status is Granted***

If *de minimis* status is granted, the *de minimis* state is required to implement, at a minimum, the coastwide management requirements contained in *Section 4.0*. Additionally, all *de minimis*

states except New Hampshire, Pennsylvania, South Carolina, and Georgia must adhere to timely quota monitoring as approved by the Board (*Section 3.1.2*).

States granted *de minimis* status are exempt from collecting biological data and the adult CPUE index data (*Section 3.5.1.2*).

If the coastwide fishery is closed for any reason through Emergency Procedures (*Section 4.7*), *de minimis* states must close their fisheries as well.

Any additional components of the FMP, which the Board determines necessary for a *de minimis* state to implement, can be defined at the time *de minimis* status is granted.

#### **4.5.3.2 Procedure to Apply for De Minimis Status**

States must specifically request *de minimis* status each year. Requests for *de minimis* status will be reviewed by the PRT as part of the annual FMP review process (*Section 5.3: Compliance Report*). Requests for *de minimis* must be submitted to the ASMFC Atlantic Menhaden FMP Coordinator as a part of the state's yearly compliance report. The request must contain the following information: all available commercial landings data for the current and 2 previous full years of data, commercial regulations for the current year, and the proposed management measures the state plans to implement for the year *de minimis* status is requested. The FMP Coordinator will then forward the information to the PRT.

In determining whether or not a state meets the *de minimis* criteria, the PRT will consider the information provided with the request, the most recent available coastwide landings data, any information provided by the TC and SAC, and projections of future landings. The PRT will make a recommendation to the Board to either accept or deny the *de minimis* request. The Board will then review the PRT recommendation and either grant or deny the *de minimis* classification.

The Board must make a specific motion to grant a state *de minimis* status. By deeming a given state *de minimis*, the Board is recognizing that: the state has a minimal Atlantic menhaden fishery; there is little risk to the health of the menhaden stock if the state does not implement the full suite of management measures; and the overall burden of implementing the complete management and monitoring requirements of the FMP outweigh the conservation benefits of implementing those measures in that particular state.

If commercial landings in a *de minimis* state exceed the *de minimis* threshold, the state will lose its *de minimis* classification, will be ineligible for *de minimis* in the following year, and will be required to implement all provisions of the FMP. If the Board denies a state's *de minimis* request, the state will be required to implement all the provisions of the FMP. When a state rescinds or loses its *de minimis* status, the Board will set a compliance date by which the state must implement the required regulations.

## **4.6 ADAPTIVE MANAGEMENT**

The Board may vary the requirements specified in this Amendment as a part of adaptive management in order to conserve the Atlantic menhaden resource. The elements that can be modified by adaptive management are listed in *Section 4.6.2*. The process under which adaptive management can occur is provided below.

### **4.6.1 General Procedures**

The PRT will monitor the status of the fishery and the resource and report on that status to the Board annually or when directed to do so by the Board. The PRT will consult with the TC, SAC, and AP in making such review and report.

The Board will review the report of the PRT, and may consult further with the TC, SAC, or AP. The Board may, based on the PRT report or on its own discretion, direct the PDT to prepare an addendum to make any changes it deems necessary. The addendum shall contain a schedule for the states to implement the new provisions.

The PDT will prepare a draft addendum as directed by the Board, and shall distribute it to all states for review and comment. A public hearing will be held in any state that requests one. The PDT will also request comment from federal agencies and the public at large. After a 30-day review period, staff, in consultation with the PDT, will summarize the comments received and prepare a final version of the addendum for the Board.

The Board shall review the final version of the addendum prepared by the PDT, and shall also consider the public comments received and the recommendations of the TC, LEC, and AP. The Board shall then decide whether to adopt, or revise and then adopt, the addendum.

Upon adoption of an addendum by the Board, states shall prepare plans to carry out the addendum, and submit them to the Board for approval according to the schedule contained in the addendum.

### **4.6.2 Measures Subject to Change**

The following measures are subject to change under adaptive management upon approval by the Board:

1. Management areas and unit
2. Reference points, including an overfishing and overfished definition
3. Rebuilding targets and schedules
4. TAC specification
5. Quota allocation
6. Quota transfers
7. Quota rollovers
8. Episodic events set aside program

9. Incidental catch and small-scale fishery provision
10. *De minimis* specifications
11. Chesapeake Bay reduction fishery cap
12. Effort controls
13. Fishing year and/or seasons
14. Trip limits
15. Limited entry
16. Area closures
17. Fishery closures
18. Gear restrictions including mesh sizes
19. Recreational fishery management measures
20. For-hire fishery management measures
21. Research set aside programs
22. Research or monitoring requirements
23. Frequency of revisiting the allocation method
24. Frequency of stock assessments
25. Reporting requirements
26. Measures to reduce or monitor bycatch
27. Observer requirements
28. Recommendations to the Secretaries for complementary actions in federal jurisdictions
29. Any other management measures currently included in Amendment 3

#### **4.7 EMERGENCY PROCEDURES**

Emergency procedures may be used by the Board to require any emergency action that is not covered by, is an exception to, or a change to any provision in Amendment 3. Procedures for implementation are addressed in the ISFMP Charter, Section Six (c)(10) (ASMFC 2016).

#### **4.8 MANAGEMENT INSTITUTIONS**

The management institutions for Atlantic menhaden shall be subject to the provisions of the ISFMP Charter (ASMFC 2016). The following is not intended to replace any or all of the provisions of the ISFMP Charter. All committee roles and responsibilities are included in detail in the ISFMP Charter and are only summarized here.

##### **4.8.1 Atlantic States Marine Fisheries Commission and ISFMP Policy Board**

The Commission and the ISFMP Policy Board are generally responsible for the oversight and management of the Commission's fisheries management activities. The Commission must approve all FMPs and amendments, including Amendment 3. The ISFMP Policy Board reviews any non-compliance recommendations of the various Boards and, if it concurs, forwards them to the Commission for action.



#### **4.8.2 Atlantic Menhaden Management Board**

The Board was established under the provisions of the Commission's ISFMP Charter (Section Four; ASMFC 2016) and is generally responsible for carrying out all activities under this Amendment.

The Board establishes and oversees the activities of the PDT, PRT, TC, SAS and the BERP Workgroup, and the AP. In addition, the Board makes changes to the management program under adaptive management, reviews state programs implementing the amendment, and approves alternative state programs through conservation equivalency. The Board reviews the status of state compliance with the management program annually, and if it determines that a state is out of compliance, reports that determination to the ISFMP Policy Board under the terms of the ISFMP Charter.

#### **4.8.3. Atlantic Menhaden Plan Development Team**

The PDT is composed of personnel from state and federal agencies who have scientific knowledge of Atlantic menhaden and management abilities. The PDT is responsible for preparing and developing management documents, including addenda and amendments, using the best scientific information available and the most current stock assessment information. The ASMFC FMP Coordinator chairs the PDT. The PDT will either disband or assume inactive status upon completion of Amendment 3.

#### **4.8.4 Atlantic Menhaden Plan Review Team**

The PRT is composed of personnel from state and federal agencies who have scientific and management ability and knowledge of Atlantic menhaden. The PRT is responsible for providing annual advice concerning the implementation, review, monitoring, and enforcement of Amendment 3 once it has been adopted by the Commission. After final action on Amendment 3, the Board may elect to retain members of the PDT as members of the PRT, or appoint new members.

#### **4.8.5 Atlantic Menhaden Technical Committee**

The TC consists of representatives from state or federal agencies, Regional Fishery Management Councils, the Commission, a university, or other specialized personnel with scientific and technical expertise, and knowledge of the Atlantic menhaden fishery. The Board appoints the members of the TC and may authorize additional seats as it sees fit. The role of the TC is to assess the species' population, provide scientific advice concerning the implications of proposed or potential management alternatives, and respond to other scientific questions from the Board, PDT, or PRT. The SAS reports to the TC.

#### **4.8.6 Atlantic Menhaden Stock Assessment Subcommittee**

The SAS is appointed and approved by the Board, with consultation from the Atlantic Menhaden TC, and consists of scientists with expertise in the assessment of the Atlantic menhaden population. Its role is to assess the Atlantic menhaden population and provide scientific advice concerning the implications of proposed or potential management alternatives, and to respond to other scientific questions from the Board, TC, PDT or PRT. The SAS reports to the TC.

#### **4.8.7 Biological Ecological Reference Point Workgroup**

The BERP Workgroup is comprised of representatives from each technical committee for weakfish, striped bass, bluefish, and menhaden, in addition to state and federal biologists with expertise on multispecies modeling approaches. The intent of the BERP Workgroup is to assist the Commission with its multispecies modeling efforts and facilitate the use of multispecies model results in management decisions. More specifically, the BERP Workgroup is tasked with identifying potential ecological reference points that account for Atlantic menhaden's role as a forage fish.

#### **4.8.8 Atlantic Menhaden Advisory Panel**

The AP is established according to the Commission's Advisory Committee Charter. Members of the AP are citizens who represent a cross-section of commercial and recreational fishing interests and others who are concerned about Atlantic menhaden conservation and management. The AP provides the Board with advice directly concerning the Commission's Atlantic menhaden management program.

#### **4.8.9 Federal Agencies**

##### ***4.8.9.1 Management in the Exclusive Economic Zone***

Management of Atlantic menhaden in the EEZ is within the jurisdiction of the three Regional Fishery Management Councils under the Magnuson-Stevens Act (16 U.S.C. 1801 et seq.). In the absence of a Council Fishery Management Plan, management is the responsibility of the National Marine Fisheries Service as mandated by the Atlantic Coastal Fisheries Cooperative Management Act.

##### ***4.8.9.2 Federal Agency Participation in the Management Process***

The Commission has accorded U.S Fish and Wildlife Service (USFWS) and National marine Fisheries Service (NMFS) voting status on the ISFMP Policy Board and the Atlantic Menhaden Management Board in accordance with the Commission's ISFMP Charter. NMFS can also participate on the Atlantic Menhaden PDT, PRT, TC and SAC.

##### ***4.8.9.3 Consultation with Fishery Management Councils***

At the time of adoption of Amendment 3, none of the Regional Fishery Management Councils

had implemented a management plan for Atlantic menhaden, nor had they indicated an intent to develop a plan.

#### **4.9 RECOMMENDATION TO THE SECRETARY OF COMMERCE FOR COMPLEMENTARY MEASURES IN FEDERAL WATERS**

The quota management approach adopted can be implemented and monitored within the jurisdictions of the Atlantic states. Therefore, a specific recommendation to the Secretary for complimentary action in federal jurisdictions is unnecessary at this time. The Board may consider further recommendations to the Secretary if changes to Amendment 3 occur through the adaptive management process (*Section 4.6*).

#### **4.10 COOPERATION WITH OTHER MANAGEMENT INSTITUTIONS**

The Board will cooperate, when necessary, with other management institutions during the implementation of this amendment, including NMFS and the New England, Mid-Atlantic, and South Atlantic Fishery Management Councils.

#### **5.0 COMPLIANCE**

The full implementation of the provisions included in this amendment is necessary for the management program to be equitable, efficient, and effective. States are expected to implement these measures faithfully under state laws. ASMFC will continually monitor the effectiveness of state implementation and determine whether states are in compliance with the provisions of this fishery management plan.

The Board sets forth specific elements that the Commission will consider in determining state compliance with this fishery management plan, and the procedures that will govern the evaluation of compliance. Additional details of the procedures are found in the ISFMP Charter (ASMFC 2016).

#### **5.1 MANDATORY COMPLIANCE ELEMENTS FOR STATES**

A state will be determined to be out of compliance with the provision of this fishery management plan according to the terms of Section Seven of the ISFMP Charter if:

- Its regulatory and management programs to implement Amendment 3 have not been approved by the Board; or
- It fails to meet any schedule required by Section 5.2, or any addendum prepared under adaptive management (*Section 4.6*); or
- It has failed to implement a change to its program when determined necessary by the Board; or
- It makes a change to its regulations required under *Section 4* or any addendum prepared under adaptive management (*Section 4.6*), without prior approval of the Board.

### 5.1.1 Regulatory Requirements

To be considered in compliance with this fishery management plan, all state programs must include a regime of restrictions on Atlantic menhaden fisheries consistent with the requirements of *Section 3.1: Commercial Catch and Landings Programs*; *Section 3.5: Biological Data Collection Programs*; and *Section 4.3: Commercial Fishery Management Measures*. A state may propose an alternative management program under *Section 4.5: Alternative State Management Regimes*, which, if approved by the Board, may be implemented as an alternative regulatory requirement for compliance.

States may begin to implement Amendment 3 after final approval by the Commission. Each state must submit its required Atlantic menhaden regulatory program to the Commission through ASMFC staff for approval by the Board. During the period between submission and Board approval of the state's program, a state may not adopt a less protective management program than contained in this Amendment or contained in current state law. The following lists the specific compliance criteria that a state/jurisdiction must implement in order to be in compliance with Amendment 3:

- Commercial fishery management measures as specified in *Section 4.3* including the Total Allowable Catch (*Section 4.3.1*), Overage Payback (*Section 4.3.2.1*), Quota Allocation (*Section 4.3.2*), Quota Transfers (*Section 4.3.3*), Quota Rollovers (*Section 4.3.4*), Incidental Catch and Small-Scale Fishery Provision (*Section 4.3.5*), Episodic Events Set Aside (*Section 4.3.6*), and the Chesapeake Bay Reduction Fishery Harvest Cap (*Section 4.3.7*).
- Monitoring requirements as specified in *Section 3.1*
- Fishery dependent data collection programs as specified in *Section 3.5.1*
- All state programs must include law enforcement capabilities adequate for successful implementation of the compliance measures contained in this Amendment.
- There are no mandatory research requirements at this time; however, research requirements may be added in the future under Adaptive Management, *Section 4.6*.
- There are no mandatory habitat requirements in Amendment 3. See *Section 4.4* for habitat recommendations.

### 5.2 COMPLIANCE SCHEDULE

States must implement this Amendment according to the following schedule:

January 1, 2018:	Submission of state programs to implement Amendment 3 for approval by the Board. Programs must be implemented upon approval by the Board.
April 15, 2018:	States with approved management programs must implement Amendment 3. States may begin implementing management programs prior to this deadline if approved by the Board.

### **5.3 COMPLIANCE REPORTS**

Each state must submit to the Commission an annual report concerning its Atlantic menhaden fisheries and management program for the previous year, no later than April 1st. A standard compliance report format has been prepared and adopted by the ISFMP Policy Board. States should follow this format in completing the annual compliance report.

The report shall cover:

- The previous calendar year's fishery and management program including mandatory reporting programs (including frequency of reporting and data elements collected), fishery dependent data collection, fishery independent data collection, regulations in effect, total harvest (including directed landings, incidental and small-scale fishery landings, landings under the episodic events program, and landings by gear type), date of closure of the directed fisheries, *de minimis* requests, and future regulatory changes.
- The planned management program for the current calendar year summarizing regulations that will be in effect and monitoring programs that will be performed, highlighting any changes from the previous year.

### **5.4 PROCEDURES FOR DETERMINING COMPLIANCE**

Detailed procedures regarding compliance determinations are contained in the ISFMP Charter, Section Seven (ASMFC 2016). In brief, all states are responsible for the full and effective implementation and enforcement of fishery management plans in areas subject to their jurisdiction. Written compliance reports as specified in the Amendment must be submitted annually by each state with a declared interest. Compliance with Amendment 3 will be reviewed at least annually; however, the Board, ISFMP Policy Board, or the Commission may request the PRT to conduct a review of state's implementation and compliance with Amendment 3 at any time.

The Board will review the written findings of the PRT within 60 days of receipt of a State's compliance report. Should the Board recommend to the Policy Board that a state be determined out of compliance, a rationale for the recommended noncompliance finding will be addressed in a report. The report will include the required measures of Amendment 3 that the state has not implemented or enforced, a statement of how failure to implement or enforce required measures jeopardizes Atlantic menhaden conservation, and the actions a state must take in order to comply with Amendment 3 requirements.

The ISFMP Policy Board will review any recommendation of noncompliance from the Board within 30 days. If it concurs with the recommendation, it shall recommend to the Commission that a state be found out of compliance.

The Commission shall consider any noncompliance recommendation from the ISFMP Policy Board within 30 days. Any state that is the subject of a recommendation for a noncompliance finding is given an opportunity to present written and/or oral testimony concerning whether it

should be found out of compliance. If the Commission agrees with the recommendation of the ISFMP Policy Board, it may determine that a state is not in compliance with Amendment 3, and specify the actions the state must take to come into compliance.

Any state that has been determined to be out of compliance may request that the Commission rescind its noncompliance findings, provided the state has revised its Atlantic menhaden conservation measures.

## **5.5. ANALYSIS OF THE ENFORCEABILITY OF PROPOSED MEASURES**

All state programs must include law enforcement capabilities adequate for successfully implementing that state's Atlantic menhaden regulations. The LEC will monitor the adequacy of a state's enforcement activity.

## **6.0 RESEARCH NEEDS**

The following list of research needs have been identified in order to enhance the state of knowledge of the Atlantic menhaden resource. Research recommendations are broken down into several categories: data; assessment methodology, habitat, and socio-economic. Each category is further broken down into recommendations that can be completed in the short term (within 5 years) and recommendations that will require a long term commitment (6+ years).

### **6.1 STOCK ASSESSMENT AND POPULATION DYNAMICS RESEARCH NEEDS**

#### **6.1.1 Annual Data Collection**

##### Short Term:

1. Continue current level of sampling from bait fisheries, particularly in the mid-Atlantic and New England. Analyze sampling adequacy of the reduction fishery and work with industry and states to effectively sample areas outside of that fishery.
2. Conduct ageing validation study to confirm scale to otolith comparisons. Use archived scales to do radio isotope analysis.
3. Conduct a comprehensive fecundity study.
4. Place observers on boats to collect at-sea samples from purse-seine sets.
5. Investigate relationship between fish size and school size in order to address selectivity.
6. Investigate relationship between fish size and distance from shore.
7. Evaluate alternative fleet configurations for removal and catch-at-age data.
8. Investigate inter-annual variability in the maturity of menhaden via collection of annual samples along the Atlantic coast.

### Long Term:

1. Develop a menhaden specific coastwide fishery independent index of adult abundance at age.
2. Conduct studies on spatial and temporal dynamics of spawning.
3. Conduct studies on the productivity of estuarine environments related to recruitment.
4. Investigate environmental covariates related to recruitment.
5. Validate multispecies/ecosystem model parameters through the development and implementation of stomach sampling program that will cover major menhaden predators along the Atlantic coast. Validation of prey preferences, size selectivity and spatial overlap is critically important to the appropriate use of such model results.

### **6.1.2 Assessment Methodology**

#### Short Term:

1. Conduct Management Strategy Evaluation (MSE) on the various reference point options (single-species, multi-species) for menhaden.
2. Continue to develop an integrated length and age based model.
3. Continue to improve methods for incorporation of natural mortality.
4. Consider estimating (time-varying) growth within the assessment model.
5. Account for co-variation among parameters and inputs in future uncertainty analyses of the assessment model.
6. Examine the variance assumption and weighting factors of all the likelihood components in the model.

#### Long Term:

1. Develop a seasonal spatially-explicit model, once sufficient age-specific data on movement rates of menhaden are available.
2. Continue exploring the development of multispecies models that can take predator-prey interactions into account. This should inform and be linked to the development of assessment models that allow natural mortality to vary over time.
3. Evaluate the sensitivity of reference points to recent productivity trends.
4. Reconsider models that allow natural mortality to vary over time.
5. Collect age-specific data on movement rates of menhaden to develop regional abundance trends.
6. Investigate the effects of global climate change on distribution, movement, and behavior of menhaden.

### **6.2 HABITAT RESEARCH NEEDS**

1. Study specific habitat requirements for all life history stages.
2. Develop habitat maps for all life history stages.
3. Identify migration routes of adults.
4. Study the effects of large-scale climatic events and the impacts on Atlantic menhaden.
5. Evaluate effects of habitat loss/degradation on Atlantic menhaden.

### **6.3 SOCIO-ECONOMIC RESEARCH NEEDS**

1. Develop a mechanism for estimating or obtaining data for economic analysis on the reduction fishery, due to the confidential nature of the data.
2. Conduct studies to fully recognize the linkages between the menhaden fishery and the numerous other fisheries which it supports and sustains.
3. Conduct studies on the recreational component of the menhaden fishery to better understand what gear is being used, where it is being prosecuted, disposition of the catch, and who the users may be in terms of socioeconomic issues and other factors.
4. Analyze the social aspects of the non-consumptive sector, including components of the bird watching and whale watching industries, including where they live and what their particular interests are in menhaden.

### **7.0 PROTECTED SPECIES**

In the fall of 1995, Commission member states, NMFS, and USFWS began discussing ways to improve implementation of the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA) in state waters. Historically, these policies had been only minimally implemented and enforced in state waters (0-3 miles). In November 1995, the Commission, through its ISFMP Policy Board, approved an amendment to its ISFMP Charter (Section Six (b)(2)) requiring protected species/fishery interactions to be discussed in the Commission's fisheries management planning process. As a result, the Commission's fishery management plans describe impacts of state fisheries on certain marine mammals and endangered species, collectively termed "protected species". The following section outlines: (1) the federal legislation which guides protection of marine mammals and sea turtles, (2) the protected species with potential fishery interactions; (3) the specific types of fishery interaction; (4) population status of the affected protected species; and (5) potential impacts to Atlantic coast state and interstate fisheries.

#### **7.1 MARINE MAMMAL PROTECTION ACT REQUIREMENTS**

Since its passage in 1972, one of the underlying goals of the MMPA has been to reduce the incidental serious injury and mortality of marine mammals in the course of commercial fishing operations to insignificant levels approaching a zero mortality and zero serious injury rate. Under the 1994 Amendments, the Act requires NMFS to develop and implement a take reduction plan to assist in the recovery of, or prevent the depletion of, each strategic stock that interacts with a Category I or II fishery. A strategic stock is defined as a stock: (1) for which the level of direct human-caused mortality exceeds the potential biological removal (PBR)<sup>1</sup> level; (2) which is declining and is likely to be listed under the Endangered Species Act (ESA) in the

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<sup>1</sup> PBR is the number of human-caused deaths per year each stock can withstand and still reach an optimum population level. This is calculated by multiplying the minimum population estimate by the stock's net productivity rate and a recovery factor ranging from 0.1 for endangered species to 1.0 for healthy stocks.



foreseeable future; or (3) which is listed as a threatened or endangered species under the ESA or as a depleted species under the MMPA. Category I and II fisheries are those that have frequent or occasional incidental mortality and serious injury of marine mammals, whereas Category III fisheries are those which have a remote likelihood of incidental mortality and serious injury to marine mammals. Each year NMFS publishes a List of Fisheries (LOF), which classifies commercial fisheries into one of these three categories.

Under 1994 mandates, the MMPA also requires fishermen in Category I and II fisheries to register under the Marine Mammal Authorization Program (MMAP). The purpose of this is to provide an exception for commercial fishermen from the general taking prohibitions of the MMPA. All fishermen, regardless of the category of fishery in which they participate, must report all incidental injuries and mortalities caused by commercial fishing operations within 48 hours.

Section 101(a)(5)(E) of the MMPA allows for authorization of the incidental take of ESA-listed marine mammals in the course of commercial fishing operations if it is determined that: (1) incidental mortality and serious injury will have a negligible impact on the affected species or stock; (2) a recovery plan has been developed or is being developed for such species or stock under the ESA; and (3) where required under MMPA Section 118, a monitoring program has been established, vessels engaged in such fisheries are registered, and a take reduction plan has been developed or is being developed for such species or stock. MMPA Section 101(a)(5)(E) permits are not required for Category III fisheries, but any serious injury or mortality of a marine mammal must be reported.

## **7.2 ENDANGERED SPECIES ACT REQUIREMENTS**

The taking of endangered sea turtles and marine mammals is prohibited and considered unlawful under Section 9(a)(1) of the ESA. In addition, NMFS or the USFWS may determine Section 4(d) protective regulations to be necessary and advisable to provide for the conservation of threatened species. There are several mechanisms established in the ESA which allow for exceptions to the prohibited take of protected species listed under the ESA. Section 10(a)(1)(A) of the ESA authorizes NMFS to allow the taking of listed species through the issuance of research permits, which allow ESA species to be taken for scientific purposes or to enhance the propagation and survival of the species. Section 10(a)(1)(B) authorizes NMFS to permit, under prescribed terms and conditions, any taking otherwise prohibited by Section 9(a)(1)(B) of the ESA if the taking is incidental to, and not the purpose of, carrying out an otherwise lawful activity. In recent years, some Atlantic state fisheries have obtained section 10(a)(1)(B) permits for state fisheries. Recent examples are at [http://www.nmfs.noaa.gov/pr/permits/esa\\_review.htm#esa10a1b](http://www.nmfs.noaa.gov/pr/permits/esa_review.htm#esa10a1b).

Section 7(a)(2) requires federal agencies to consult with NMFS to ensure that any action that is authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat of such species. If, following completion of the consultation, an action is found to

jeopardize the continued existence of any listed species or cause adverse modification to critical habitat of such species, reasonable and prudent alternatives need to be identified so that jeopardy or adverse modification to the species does not occur. Section (7)(o) provides the actual exemption from the take prohibitions established in Section 9(a)(1), which includes Incidental Take Statements that are provided at the end of consultation via the ESA Section 7 Biological Opinions.

### 7.3 PROTECTED SPECIES WITH POTENTIAL FISHERY INTERACTIONS

A number of protected species inhabit the management unit, which includes inshore and nearshore waters, for Atlantic Menhaden. Ten are classified as endangered or threatened under the ESA; the remainder are protected under provisions of the MMPA. The species found in coastal Northwest Atlantic waters are listed below.

#### Endangered

Right whale	<i>(Eubalaena glacialis)</i>
Blue Whale	<i>(Balaenoptera musculus)</i>
Fin whale	<i>(Balaenoptera physalus)</i>
Leatherback turtle	<i>(Dermochelys coriacea)</i>
Kemp’s ridley	<i>(Lepidochelys kempii)</i>
Hawksbill turtle	<i>(Eretmochelys imbricata)</i>
Shortnose sturgeon	<i>(Acipenser brevirostrum)</i>
Atlantic sturgeon	<i>(Acipenser oxyrinchus oxyrinchus)</i>

#### Threatened

Loggerhead turtle	<i>(Caretta caretta)</i>
North Atlantic Green turtle dps	<i>(Chelonia mydas)</i>

#### MMPA

Includes all marine mammals above in addition to:

Minke whale	<i>(Balaenoptera acutorostrata)</i>
Humpback whale	<i>(Megaptera novaeangliae)</i>
Bottlenose dolphin	<i>(Tursiops truncatus)</i>
Atlantic-white sided dolphin	<i>(Lagenorhynchus acutus)</i>
Harbor seal	<i>(Phoca vitulina)</i>
Grey seal	<i>(Halichoerus grypus)</i>
Harp seal	<i>(Phoca groenlandica)</i>
Harbor porpoise	<i>(Phocoena phocoena)</i>

In the Northwest Atlantic waters, protected species utilize marine habitats for feeding, reproduction, nursery areas, and migratory corridors. For several stocks of marine mammals, including humpback whales, menhaden are an important prey species. Some species occupy the area year round while others use the region only seasonally or move intermittently

nearshore, inshore, and offshore. Interactions may occur whenever fishing gear and marine mammals overlap spatially and temporally.

For sea turtles, the Atlantic seaboard provides important developmental habitat for post-pelagic juveniles, as well as foraging and nesting habitat for adults. The distribution and abundance of sea turtles along the Atlantic coast is related to geographic location and seasonal variations in water temperatures. Water temperatures dictate how early northward migrations begin each year and is a useful factor for assessing when turtles will be found in certain areas. Interactions may occur whenever fishing gear and sea turtles overlap spatially and temporally.

### **7.3.1 Marine Mammals**

Five marine mammal species are primarily known to co-occur with or become entangled in gear used by the Atlantic menhaden fishery. They include the Atlantic right whale, humpback whale, fin whale, coastal bottlenose dolphin, and harbor porpoise.

#### North Atlantic Right Whale

The North Atlantic right whale (*Eubalaena glacialis*) is among the most endangered large whale species in the world. Despite decades of conservation measures, the population remains at low numbers. In 2012, 440 individually recognized whales were known to be alive (Corkeron et al., 2016). Models using data collected through the mid-1990s indicated that if the conditions present at that time were to continue, western North Atlantic right whales would be extinct within 200 years (Caswell et al., 1999).

North Atlantic right whales have a wide distribution throughout the Atlantic Ocean but are generally found west of the Gulf Stream, from the southeast U.S. to Canada (Kenney, 2002; Waring et al., 2009). North Atlantic right whales frequent Stellwagen Bank, Jeffreys Ledge, the Bay of Fundy, and Browns Banks in the warmer months. The distribution of right whales in the summer and fall is linked to the distribution of zooplankton (Winn et al., 1986). Right whales feed by swimming continuously with their mouths open, filtering large amounts of water through their baleen and capturing zooplankton on the baleen's inner surface. Calving occurs in the winter months in coastal waters off of Georgia and Florida (Kraus et al., 1988). Mid-Atlantic waters are used as a migratory pathway from the spring and summer feeding/nursery areas to the winter calving grounds off the coast of Georgia and Florida.

The North Atlantic Right Whale is listed as endangered throughout its range. Ship strikes and fishing gear entanglements are the principal factors believed to be hindering recovery of western North Atlantic right whales population (NMFS, 2012). Data collected from 1970 through 1999 indicate that anthropogenic interactions in the form of ship strikes and gear entanglements were responsible 19 out of 45 reported right whale deaths (Knowlton and Kraus, 2001).

### Humpback Whale

Humpback whales, known for their displays of breaching and bubble net feeding, can be found in all major oceans. In the western North Atlantic, humpback whales calve and mate in the West Indies and then migrate to northern feeding areas during the summer months. In the Gulf of Maine, sightings are most frequent from mid-March through November (CETAP, 1982). There they feed on a number of species of small schooling fish, particularly sand lance, mackerel, and Atlantic herring. Humpback whales have also been observed feeding on krill (Wynne and Schwartz, 1999).

In the western Atlantic Ocean, humpback whales have become increasingly more abundant. The overall North Atlantic population, estimated from genetic tagging data collected by the Years of the North Atlantic Humpback (YONAH) project, was estimated to be 4,894 males and 2,804 females in the 1990's. As a result, the West Indies population of humpback whales, which migrates up to New England, was not considered at risk of extinction or likely to become threatened within the foreseeable future (81 FR 62259, September 8, 2016). While not listed as endangered or threatened, the major known sources of anthropogenic mortality and injury of humpback whales are commercial fishing gear entanglements and ship strikes.

### Fin Whale

Fin whales inhabit a wide range of latitudes between 20 to 75 degrees north and 20 to 75 degrees south (Perry et al., 1999). Like right and humpback whales, fin whales are believed to use high latitude waters primarily for feeding, and low latitude waters for calving. However, evidence regarding the location of where fin whales primarily winter, calve, and mate is still scarce. Clark (1995) reported a general pattern of fin whale movements in the fall from the Labrador/Newfoundland region, south past Bermuda and into the West Indies, but also noted strandings along the U.S. Mid-Atlantic coast from October through January. This could suggest the possibility of an offshore calving area (Clark 1995; Hain et al. 1992). The predominant prey of fin whales varies greatly in different areas depending on what is locally available (IWC, 1992). In the western North Atlantic, fin whales feed on a variety of small schooling fish (e.g., herring, capelin, and sand lance) as well as squid and planktonic crustaceans (Wynne and Schwartz, 1999).

The fin whale is listed as endangered throughout its range. Like right whales and humpback whales, anthropogenic mortality of fin whales includes entanglement in commercial fishing gear and ship strikes (NMFS, 2011). Of 12 fin whale mortalities recorded between 2009 and 2013, nine were associated with vessel interactions (Waring et al., 2016). Experts believe that fin whales are struck by large vessels more frequently than any other cetacean (Laist et al., 2001).

### Bottlenose Dolphin

Common bottlenose dolphins are found throughout the western Atlantic coast, with primary habitat along the U.S. ranging from New York through Florida. The distribution of the species changes seasonally, with a greater abundance of bottlenose dolphins found in the Mid-Atlantic waters in the summer (NMFS, 2008). In the winter, most bottlenose dolphins are found south

of the Virginia-North Carolina border (NMFS, 2008). The species is often aggregated in groups, ranging up to 15 individuals inshore and even larger herds offshore. Bottlenose dolphins eat a variety of prey including invertebrates and fish.

On the Atlantic coast, five stocks of common bottlenose dolphins are considered depleted under the MMPA, meaning that the population stock is below its optimum sustainable level (Waring et al., 2016). The primary source of human-induced mortality is interactions with fishing gear, particularly coastal gillnets. Between 1995 and 2000, 12 bottlenose dolphin mortalities were reported in gillnets targeting dogfish, striped bass, Spanish mackerel, kingfish, and weakfish (NMFS, 2008). Four more mortalities were observed in 2003-2006 (NMFS, 2008). In response, a Bottlenose Dolphin Take Reduction Plan was implemented in May 2006 to reduce the incidental mortality and serious injury of bottlenose dolphins in commercial fishing gear (71 FR 24776, April 26, 2006).

#### Harbor Porpoise

The harbor porpoise ranges from West Greenland to North Carolina. The southern-most stock of harbor porpoise is referred to as the Gulf of Maine/Bay of Fundy stock and spends its winters in the Mid-Atlantic region. Harbor porpoises are generally found in coastal and inshore waters, but will also travel to deeper, offshore waters. There are insufficient data to determine population trends for this species because harbor porpoises are widely dispersed in small groups, they spend little time at the surface, and their distribution varies from year to year depending on environmental conditions (NMFS, 2002). Shipboard line transect sighting surveys have been conducted to estimate population size of the harbor porpoise stock. The best estimate of abundance for the Gulf of Maine/Bay of Fundy harbor porpoise stock is 79,883 individuals from a 2011 survey (NMFS, 2016).

The Gulf of Maine harbor porpoise was proposed to be listed as threatened under the ESA on January 7, 1993, but NMFS determined this listing was not warranted (NMFS, 1999). NMFS removed this stock from the ESA candidate species list in 2001. The primary threat to the harbor porpoise is incidental catch in fishing gear, such as gillnets and trawls. The Harbor Porpoise Take Reduction Plan was implemented to reduce incidental mortality and serious injury in gillnet fisheries in the Gulf of Maine and mid-Atlantic.

#### **7.3.1.1 Gear Interactions with Marine Mammals**

Marine mammal interactions have been documented in the primary fisheries that target menhaden, including the purse seine, pound net, and gillnet fisheries, and in those fisheries for which menhaden is bycatch, including trawl, haul seine, pound net and gillnet fisheries. The bycatch reports included below do not represent a complete list but rather available records. It should be noted that without an observer program for many of these fisheries, actual numbers of interactions are difficult to obtain.

### Purse Seine

The U.S. Mid-Atlantic menhaden purse seine fishery is currently listed as a Category II fishery while the Gulf of Maine menhaden purse seine fishery is listed as a Category III fishery (82 FR 3655, January 12, 2017).

Historically, Atlantic menhaden purse seine fishermen reported an annual incidental take of one to five coastal bottlenose dolphins (NMFS, 1991). This information comes from reports required under a small take exemption issued under the then Section 101(a)(4) of the MMPA. The Atlantic purse seine fishery reported the lethal incidental take of one minke whale in 1990 (NMFS, 1993); however, the target species of the purse seine (i.e. tuna or menhaden) is unknown. In addition, an incidental take of a humpback whale in the mid-Atlantic menhaden purse seine fishery was reported in 2001 (66 FR 6545, January 22, 2001); however, in 2005 humpback whales were removed from the list species killed or injured in the fishery because an interaction had not been reported in subsequent years. In 2006, the mid-Atlantic menhaden purse seine fishery was elevated from a Category III fishery to a Category II fishery (71 FR 48802, August 22, 2006). This change was made after interactions with bottlenose dolphins in other purse seine fisheries, such as those in the Gulf of Mexico. This required the fishery to comply with registration requirements, applicable take reduction plan requirements, and observer coverage. Limited observer coverage has occurred in the fishery since 2008.

### Pound Nets

The Virginia pound net fishery is listed as a Category II fishery in the 2017 LOF due to documented interactions with bottlenose dolphins (82 FR 3655, January 12, 2017). Between 2004 and 2008, there were 17 bottlenose dolphins killed in pound net gear and 3 bottlenose dolphins were released alive (76 FR 37716, June 28, 2011). There is no formal observer coverage for the Virginia pound net fishery but there has been sporadic monitoring by the Northeast Fishery Observer Program. All other Atlantic coast pound net fisheries are listed as a Category III fishery.

### Gillnets

The mid-Atlantic gillnet fishery is listed as a Category I fishery in the 2017 LOF (82 FR 3655, January 12, 2017). The fishery was originally listed as a Category II fishery but in 2003, it was elevated to a Category I fishery after stranding and observer data documented the incidental mortality and serious injury of bottlenose dolphins (68 FR 41725, July 15, 2003). Other species with documented interactions include the harbor porpoise, common dolphin, harbor seal, harp seal, long-finned pilot whale, short-finned pilot whale, and white-sided dolphin; however, since gillnet fisheries target many species, not all incidents may have occurred while harvesting menhaden. Between 1995 and 2013, observer coverage has ranged from 1% to 5%.

The Chesapeake Bay inshore gillnet, the North Carolina inshore gillnet, the northeast anchored float gillnet, the northeast drift gillnet, and the southeast Atlantic gillnet fisheries are all listed as Category II fisheries in the 2017 LOF (82 FR 3655, January 12, 2017). The primary species reported interacting with these gears is the bottlenose dolphin; however, the harbor seal, humpback whale, and white-sided dolphin have been documented in the northeast anchored

float gillnet. Both the Chesapeake Bay inshore gillnet and the North Carolina inshore gillnet fisheries were elevated from a Category III fishery to a Category II fishery in the 2006 and 2001 LOFs, respectively (66 FR 42780, August 15, 2001; 71 FR 48802, August 22, 2006).

The Delaware River inshore gillnet, the Long Island Sound inshore gillnet, the southeast Atlantic inshore gillnet, and the Rhode Island/Southern Massachusetts/New York Bight inshore gillnet fisheries are listed as Category III fisheries in the 2017 LOF (82 FR 3655, January 12, 2017). There have been no documented interactions with marine mammals in the past five years with the exception of the southeast Atlantic inshore gillnet fishery which has documented an interaction with a bottlenose dolphin.

#### Haul/Beach Seine

The Mid-Atlantic haul/beach seine fishery is listed as a Category II fishery in the 2017 LOF due to interactions with coastal bottlenose dolphin (82 FR 3655, January 12, 2017). NMFS has recorded one observed take of a bottlenose dolphin in this fishery in 1998 (Waring and Quintal 2000). Harbor porpoise was removed from the list of species killed or injured in the Mid-Atlantic haul/beach seine fishery due to no other interactions between 1999 and 2003. The fishery was observed from 1998-2001 but there has been limited observer coverage since 2001.

#### Fyke Net, Floating Fish Trap, Fish Weir

Floating fish traps, northeast and Mid-Atlantic fyke nets, and fish weirs are listed as a Category III fishery in the 2017 LOF (82 FR 3655, January 12, 2017). There are no documented interactions between marine mammals in the northeast/mid-Atlantic fyke net fishery nor the floating fish trap fisheries. In the Mid-Atlantic mixed species weir fishery there have been documented interactions with bottlenose dolphins.

#### Trawls

The mid-Atlantic mid-water trawl fishery is listed as a Category II fishery in the 2017 LOF (82 FR 3655, January 12, 2017). In 2001, the mid-Atlantic mid-water trawl fishery was elevated to Category I based on mortality and injury of common dolphins and pilot whales. In 2007, the fishery was down-graded to a Category II fishery due to reductions in the interactions with common dolphins and pilot whales (72 FR 14466, March 28, 2007). The mid-Atlantic mid-water trawl fishery continues to be listed as a Category II fishery due to interactions with white-sided dolphins. Interactions with other species include the gray seal and the harbor seal. Observer coverage in the fishery has ranged from 0% to 13.33% between 1997 and 2008.

The northeast mid-water trawl fishery is also listed as a Category II fishery in the 2017 LOF (82 FR 3655, January 12, 2017). The fishery has had documented interactions with the common dolphin, gray seal, harbor seal, long-finned pilot whale, short-finned pilot whales, and minke whale. Importantly, not all mid-water trawls target menhaden as this is the primary gear used in the northeast groundfish fisheries. Observer coverage in the fishery has ranged from 0% to 19.9% between 1997 and 2008.

### Cast Net

Currently, cast net is listed as a Category III fishery in the 2017 LOF (82 FR 3655, January 12, 2017). There are no documented marine mammal species incidentally injured or killed in the cast net fishery.

### Traps/Pots

The Atlantic mixed species trap/pot fishery is listed as a Category II fishery in the 2017 LOF (82 FR 3655, January 12, 2017). The gear is primarily involved in entanglement events with species such as the fin whale and the humpback whale. Historically, the minke whale and the harbor porpoise were also listed as species injured or killed by the Atlantic mixed species trap/pot fishery but these species were removed in 2005 because interactions had not been documented in recent years. There is no observer program for this fishery.

### **7.3.2 Sea Turtles**

All sea turtles that occur in U.S. waters are listed as either endangered or threatened under the ESA. Five sea turtle species occur along the U.S. Atlantic coast, namely the loggerhead (*Caretta caretta*), Kemp's Ridley (*Lepidochelys kempi*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*).

#### Loggerhead Turtle

The loggerhead turtle is the most abundant species of sea turtle in U.S. waters, commonly occurring throughout the inner continental shelf from Florida through Cape Cod, Massachusetts. This species is found in a wide range of habitats throughout the temperate and tropical regions of the globe, including the open ocean, continental shelves, bays, lagoons, and estuaries (NMFS, 2013). NMFS and USFWS have identified five nesting sub-populations along the northwest Atlantic Ocean. They include 1) southern Florida through Georgia; 2) Florida through Key West; 3) the Dry Tortugas; 4) the northern Gulf of Mexico; 5) and the greater Caribbean (76 FR 58867, September 22, 2011). Nesting sites along the coast of the U.S. primarily occur from Virginia through Alabama (76 FR 58867, September 22, 2011). The activity of the loggerhead is limited by temperature, with loggerhead turtles not appearing in the Gulf of Maine before June and generally leaving by mid-September. Loggerhead sea turtles are primarily benthic feeders, opportunistically foraging on crustaceans and mollusks. Under certain conditions they also feed on finfish, particularly if they are easy to catch (*e.g.*, caught in gillnets or inside pound nets where the fish are accessible to turtles).

The northwest Atlantic population of loggerhead turtles is listed as threatened under ESA. Threats to the population include destruction of nesting habitat as the result of development and erosion, sand dredging, fishing practices, and marine pollution (76 FR 58867, September 22, 2011).

#### Kemp's Ridley

Kemp's ridley sea turtles are found throughout the Gulf of Mexico and North Atlantic coast; however their only major nesting site is in Rancho Nuevo, Tamaulipas, Mexico (Carr 1963). Juvenile Kemp's ridleys use northeastern and mid-Atlantic waters of the U.S. Atlantic coastline



as primary developmental habitat, with shallow coastal embayments serving as important foraging grounds during the summer months. Juvenile ridleys migrate south as water temperatures cool, and are predominantly found in shallow coastal embayments along the Gulf Coast during the fall and winter months. Kemp's ridleys can be found from New England to Florida, and are the second most abundant sea turtle in Virginia and Maryland waters (Keinath *et al.* 1987; Musick and Limpus, 1997). In the Chesapeake Bay, ridleys frequently forage in shallow embayments, particularly in areas supporting submerged aquatic vegetation (Lutcavage and Musick, 1985; Bellmund *et al.*, 1987; Keinath *et al.*, 1987; Musick and Limpus, 1997). These turtles primarily feed on crabs, but also consume mollusks, shrimp, and fish (Bjorndal, 1997).

Kemp's ridley are listed as endangered primarily as the result of the destruction of habitat, particularly nesting habitat in Mexico, bycatch in fisheries, the harvesting of eggs and nesting turtles, and vessel collisions.

### Green Turtle

Green turtles are distributed throughout the world's oceans, primarily between the northern and southern 20° isotherms (Hirth, 1971). Most green turtle nesting in the continental United States occurs on the Atlantic Coast of Florida, with documented nests also along the Gulf coast of Florida and the Florida Panhandle. While nesting activity is important in determining population distributions, the availability and location of foraging grounds also plays an important role in their spatial distribution. Juvenile green sea turtles occupy pelagic habitats after leaving the nesting beach and are primarily omnivorous (Bjorndal, 1985). At approximately 20 to 25 cm carapace length, juveniles leave pelagic habitats and enter benthic foraging areas, shifting to an herbivorous diet (Bjorndal, 1997). Post-pelagic green turtles feed primarily on sea grasses and benthic algae (Bjorndal, 1985). Known feeding habitats along U.S. coasts of the western Atlantic include shallow lagoons and embayments in Florida, such as the Indian River Lagoon (Ehrhart *et al.*, 1986). Along the Atlantic coast, green turtles can be found from Florida up to Massachusetts.

Green turtles are listed as threatened along the North Atlantic. Threats to the North Atlantic population of green turtles includes the degradation of nesting beaches due to coastal development, the degradation of forage habitat due to pollution, the illegal harvest of green turtles and their eggs, entanglement in fishing gear such as gillnets, trawls, longlines, and traps, vessel strikes, and the persistence of an often lethal disease known as fibropapillomatosis (81 FR 20057, May 6, 2016).

### Leatherback Turtle

The leatherback is the largest living turtle and its range is farther than any other sea turtle species (NMFS, 2013). Leatherback turtles are often found in association with jellyfish, with the species primarily feeding on Cnidarians (medusae, siphonophores) and tunicates (salps, pyrosomas). While these turtles are predominantly found in the open ocean, they do occur in coastal water bodies such as Cape Cod Bay and Narragansett Bay, particularly the fall. The most significant nesting in the U.S. occurs in southeast Florida (NMFS, 2013).

The leatherback turtle is listed as endangered throughout its range. Primary causes of this

population decline include the degradation of nesting beaches as the result of coastal development and beach sand mining, the poaching of eggs on nesting beaches, increased human pollution in pelagic waters, the presence of disease and parasites, and the entanglement of leatherbacks in active and abandoned fishing gear (NMFS, 2013).

#### Hawksbill Turtle

The hawksbill turtle is found throughout the world's oceans, primarily between 30°N and 30°S latitude. In the continental U.S., hawksbill turtles commonly occur in southern Florida and the Gulf of Mexico, with a preferred habitat being coral reefs and other hard bottom habitats (NMFS, 2007). Nesting sites in the Atlantic are typically found in Mexico, Puerto Rico, and the U.S. Virgin Islands (NMFS, 2007). During their juvenile life stage, hawksbill turtles occupy the pelagic environment, floating with algal mats in the Atlantic (NMFS 2007). The diet of hawksbill turtles primarily consists of sponges, invertebrates, and algae (NMFS 2007).

The hawksbill turtle is listed as endangered throughout its range. Primary threats to the population include loss of coral reef habitat, the illegal harvest of eggs and nesting females, increased recreational and commercial use of beaches, and the incidental capture of hawksbill turtles in fishing gear (NMFS 2007).

#### **7.3.2.1 Potential Impacts of Menhaden Fishery on Sea Turtles**

The Atlantic seaboard provides important developmental habitat for post-pelagic juveniles, as well as foraging and nesting habitat for adult sea turtles. The distribution and abundance of sea turtles along the Atlantic coast is related to geographic location and seasonal variations in water temperatures. Water temperatures dictate how early northward migration begins each year and is a useful factor for assessing when turtles will be found in certain areas. Moderate to high abundances of sea turtles have been observed both offshore and nearshore when water temperatures are greater than or equal to 21° C. As a result, sea turtles do not usually appear on the summer foraging grounds in the Gulf of Maine until June, but are found in Virginia as early as April. As water temperatures decline below 11° C, abundance declines and turtles typically move from cold inshore waters in the late fall to warmer waters in the Gulf Stream, generally south of Cape Hatteras, North Carolina.

The effect of water temperature on the distribution of sea turtles is important in assessing possible interactions with the menhaden fishery. Menhaden are also affected by water temperatures and similarly migrate north in the spring and south in the fall. Thus, the menhaden purse seine fishery exhibits seasonal changes, with the fishery ramping up off North Carolina in April and extending into New England in June. Observer data indicates minimal interaction between these purse seines and sea turtles. From September 1978 through early 1980, approximately 40 sea days were observed for fish sampling aboard menhaden purse seiners fishing from Maine south to North Carolina. No sea turtles were recorded as bycatch (S. Epperly, NMFS SEFSC, pers. comm.). Other gears used to catch menhaden include trawls, fixed nets, gillnets, haul/beach seines, pound nets, and cast nets. Several states have indicated that sea turtles have been incidentally captured in menhaden fixed nets and trawls, but not seine nets (ASMFC, Atlantic Coastal Fisheries Characterization Database, unpubl. data). An observer

program for protected species has not been established for the menhaden fishery. However, under the ESA Annual Determination to Implement Sea Turtle Observer Requirement (80 FR 14319, April 18, 2015), two fisheries that target menhaden are included. These include the Chesapeake Bay Inshore Gillnet Fishery and Mid-Atlantic menhaden purse seine fishery,

### **7.3.3 Atlantic Sturgeon**

The Atlantic sturgeon is an ancient anadromous fish that can live up to 60 years. Historically, sturgeon were found from Canada through Florida; however, the species currently extends through Georgia (ASMFC 1998). As adults, Atlantic sturgeon live in the ocean and migrate from the south Atlantic in the winter to New England waters in the summer (ASMFC 1998). Precise spawning locations of sturgeon are not known but it is thought that they prefer hard substrates such as rock or clay (Gilbert, 1989). As juveniles, sturgeon reside in brackish water near river mouths before moving into the coastal ocean waters. The diet of this species is primarily composed of mussels, shrimp, and small fish (ASMFC 1998).

Since 1998, there has been a moratorium on the harvest of Atlantic Sturgeon in both state and federal waters; however, the population has continued to decline and, in 2012, Atlantic sturgeon became listed under the ESA. The listing identifies five distinct population segments, which include the Gulf of Maine, the New York Bight, the Chesapeake Bay, Carolina, and the South Atlantic (77 FR 5914 and 77 FR 5880, February 6, 2012). All population segments are listed as endangered except for the Gulf of Maine population, which is listed as threatened. Primary threats to the species include historic overfishing, the bycatch of sturgeon in other fisheries, habitat destruction from dredging, dams, and development, and vessel strikes (77 FR 5914; 77 FR 5880).

Impacts on the Atlantic sturgeon population as a result of the menhaden fishery would likely occur through bycatch in gear types such as gillnets, pound nets, and purse seines. There has been no reported or observed bycatch of Atlantic sturgeon in the menhaden gillnet fisheries (77 FR 5880). Furthermore, some states have implemented measures to reduce the bycatch of sturgeon by restricting the use of gillnet gear in coastal waters and instituting seasonal closures for anchored or staked gillnets when sturgeon may be present (77 FR 5880). As a result, impacts to the sturgeon population from the menhaden fishery are thought to be limited.

### **7.3.4 Seabirds**

Like marine mammals, seabirds are vulnerable to entanglement in commercial fishing gear. Under the Migratory Bird Treaty Act, it is unlawful “by any means or in any manner, to pursue, hunt, take, capture, [or] kill” any migratory birds except as permitted by regulation (16 U.S.C. 703). Given that an interaction has not been quantified in the Atlantic menhaden fishery, impacts to seabirds are not considered to be significant. Endangered and threatened bird species, such as the piping plover, are unlikely to be impacted by the gear types employed in the menhaden fishery. Other human activities such as coastal development, habitat

degradation and destruction, and the presence of organochlorine contaminants are considered to be the major threats to some seabird populations.

#### **7.4 PROPOSED FEDERAL REGULATIONS/ACTIONS PERTAINING TO THE RELEVANT PROTECTED SPECIES**

In May 2016, NMFS proposed areas of Atlantic Sturgeon critical habitat along the Atlantic coast. The proposed critical habitat primarily consisted of rivers including the Penobscot River in Maine, the Hudson River in New York, the Potomac River in Maryland, and the Neuse River in North Carolina (81 FR 36077; 81 FR 35701). Comments on the proposal were accepted through the fall of 2016; however, a final rule has not yet been released.

#### **7.5 POTENTIAL IMPACTS TO ATLANTIC COASTAL STATE AND INTERSTATE FISHERIES**

There are several take reduction teams, whose management actions have potential impacts to coastal menhaden fisheries. The Northeast sink and Mid-Atlantic coastal gillnet fisheries are the two fisheries regulated by the Harbor Porpoise Take Reduction Plan (50 CFR 229.33 and 229.34). Amongst other measures, the plan uses time area closures in combination with pingers in Northeast waters, and time area closures along with gear modifications for both small and large mesh gillnets in mid-Atlantic waters. Although the plan predominately impacts the dogfish and monkfish fisheries due to higher porpoise bycatch rates, other gillnet fisheries are also affected.

The Atlantic Large Whale Take Reduction Plan (50 CFR 229.32) addresses the incidental bycatch of large baleen whales, primarily the northern right whale and the humpback whale, in several fisheries including the Northeast sink gillnet and Mid-Atlantic coastal gillnet. Amongst other measures, the plan closes right whale critical habitat areas to specific types of fishing gear during specific seasons, and modifies fishing gear and practices. The Atlantic Large Whale Take Reduction Team continues to identify ways to reduce possible interactions between large whales and commercial gear. In 2014 and 2015, the Atlantic Large Whale Take Reduction Plan was modified to reduce the number of vertical lines associated with trap/pot fisheries and required expanded gear markings for gillnets and traps in Jeffrey's Ledge and Jordan Basin (79 FR 35686, June 27, 2014; 80 FR 30367, May 28, 2015).

The Bottlenose Dolphin Take Reduction Team first convened in 2001 to discuss incidental catch of coastal bottlenose dolphins in Category I and II fisheries. In 2006, a Bottlenose Dolphin Take Reduction Plan was established, which created gear regulations for the mid-Atlantic coastal gillnet fishery, the Virginia pound net fishery, the mid-Atlantic beach seine fishery, and the North Carolina inshore gillnet fishery, among others. Specifically, the plan established mesh sizes for the gill net fisheries and prohibited night fishing for some regions and gear types (71 FR 24776, April 26, 2006).

## 8.0 REFERENCES

- Adolf, J. E., C. L. Yeager, W. D. Miller, M. E. Mallonee, and L. W. Harding. 2006. Environmental forcing of phytoplankton floral composition, biomass, and primary productivity in Chesapeake Bay, USA. *Estuarine, Coastal and Shelf Science* 67(1-2):108- 122.
- Ahrenholz, D.W. 1991. Population biology and life history of the North American menhadens, *Brevoortia* spp. *Mar. Fish. Rev.* 53: 3-19.
- Ahrenholz, D.W., J.F. Guthrie, and R.M. Clayton. 1987. Observations of ulcerative mycosis infections on Atlantic menhaden (*Brevoortia tyrannus*). U.S. NMFS Tech. Mem. NMFS-SEFC 196. 28 p.
- Ahrenholz, D.W., W.R. Nelson, and S.P. Epperly. 1987. Population and fishery characteristics of Atlantic menhaden, *Brevoortia tyrannus*. *Fish. Bull.* 85: 569-600.
- AMAC. 2000. Atlantic Menhaden Management Review, 2000. Report to ASMFC Atlantic Menhaden Board. 18 p.
- Anderson, J.D. 2007. Systematics of the North American menhadens: molecular evolutionary reconstructions in the genus *Brevoortia* (Clupeiformes: Clupeidae). *Fishery Bulletin* 205:368-378.
- Annis, E. A., E. D. Houde, L. W. Harding, Jr., M.E. Mallonee, and M. J. Wilberg. 2011. Calibration of a bioenergetics model linking primary production to Atlantic Menhaden, *Brevoortia tyrannus*, growth in Chesapeake Bay. *Mar. Ecol. Prog. Ser.* Vol. 437: 253-267.
- Anstead, K.A., J.J. Schaffler, and C.M. Jones. 2016. Coastwide nursery contribution of new recruits to the population of Atlantic menhaden. *Trans. Am. Fish. Soc.* 145: 627-636.
- Anstead, K.A., J.J. Schaffler, and C.M. Jones. 2017. Contribution of nursery areas to the adult population of Atlantic menhaden. *Trans. Am. Fish. Soc.* 146: 36-46.
- Atlantic Large Whale Take Reduction Plan Regulations. 1999. 64 Fed. Reg. 7529 (February 16, 1999).
- Atlantic Large Whale Take Reduction Plan Regulations. 2015. 80 Fed. Reg. 30367 (May 28, 2015).
- Atlantic States Marine Fisheries Commission (ASMFC). 1992. Fishery Management Plan for Atlantic Menhaden: 1992 revision. FMR No. 22. ASMFC, Washington, D.C. 159 p.
- ASMFC. 1981. Fishery Management Plan for Atlantic Menhaden. ASMFC, Washington, D.C. 146 p.
- ASMFC. 1992. Fishery Management Plan for Atlantic Menhaden: 1992 revision. FMR No. 22. ASMFC, Washington, D.C. 159 p.
- ASMFC. 1998. Amendment 1 to the Interstate Fishery Management Plan for Atlantic Sturgeon.
- ASMFC. 2001. Amendment 1 to the Interstate Fishery Management Plan for Atlantic Menhaden. ASMFC, Washington, D.C. 146 p.
- ASMFC. 2004. Addendum I to Amendment I to the Atlantic Menhaden Fishery Management Plan. ASMFC, Washington DC 52 p.
- ASMFC. 2004. Atlantic Menhaden Stock Assessment Report for Peer Review. Atlantic States Marine Fisheries Commission, Stock Assessment Report No. 04-01 (supplement). ASMFC, Washington, D.C. 145 p. 2007.06.001 WOS:000250912300003.
- ASMFC. 2005. Addendum II to Amendment 1 to the Atlantic Menhaden Fishery Management Plan. ASMFC, Washington, D.C. 30 p.

- ASMFC. 2006. Addendum III to Amendment 1 to the Atlantic Menhaden Fishery Management Plan. ASMFC, Washington, D.C. 6 p.
- ASMFC. 2009. Addendum IV to Amendment 1 to the Atlantic Menhaden Fishery Management Plan. ASMFC, Washington, D.C. 5 p.
- ASMFC. 2011. Addendum V to Amendment 1 to the Atlantic Menhaden Fishery Management Plan. ASMFC, Arlington, VA 17 p.
- ASMFC. 2012. Amendment 2 to the Interstate Fishery Management Plan for Atlantic Menhaden. ASMFC, Arlington, VA 114 p.
- ASMFC. 2013. Technical Addendum I: Episodic Events Set Aside Program to Amendment 2 to the Atlantic Menhaden Fishery Management Plan. ASMFC, Arlington, VA 4 p.
- ASMFC. 2015. Atlantic Menhaden Southeast Data, Assessment, and Review (SEDAR) 40 Stock Assessment Report. 146 p.
- ASMFC. 2016. Addendum I to Amendment 2 to the Atlantic Menhaden Fishery Management Plan. ASMFC, Arlington, VA 12 p.
- ASMFC. 2016. Interstate Fisheries Management Program Charter. ASMFC, Arlington VA. 29 p.
- ASMFC. 2017. Atlantic Menhaden Stock Assessment Update. ASMFC, Arlington, VA. 182p.
- Austin, H. 2002. Decadal oscillations and regime shifts, a characterization of the Chesapeake Bay Marine Climate. *In: Fisheries in a Changing Climate*. Amer. Fish. Soc. Symp. 32: 155-170.
- Austin, H. M., J. Kirkley, and J. Jucy. 1994. By-catch and the fishery for Atlantic menhaden (*Brevoortia tyrannus*) in the mid-Atlantic bight: AN assessment of the nature and extent of by-catch. VIMS, Va. Mar. Resour. Advisory No. 53, Va. Sea Grant College Prog. Publ. No. VSG-94-06, 39 p.
- Bellmund, S.A., J.A. Musick, R.C. Klinger, R.A. Byles, J.A. Keinath, and D.E. Barnard. 1987. Ecology of sea turtles in Virginia. Virginia Institute of Marine Science, College of William and Mary, Gloucester Point, Virginia.
- Berkson, J., L. Barbieri, S. Cadrin, S. L. Cass-Calay, P. Crone, M. Dorn, C. Friess, D. Kobayashi, T. J. Miller, W. S. Patrick, S. Pautzke, S. Ralston, M. Trianni. 2011. Calculating Acceptable Biological Catch for Stocks That Have Reliable Catch Data Only (Only Reliable Catch Stocks – ORCS). NOAA Technical Memorandum NMFS-SEFSC- 616, 56 P.
- Berrien, P., and J. Sibunka. 1999. Distribution patterns of fish eggs in the U.S. northeast continental shelf ecosystem, 1977–1987. U.S. Dep. Commer., NOAA Tech. Rep. NMFS 145, 310 p.
- Best, P.B., A. Branadão, and D.S. Butterworth. (2001). Demographic parameters of southern right whales off South Africa. *J. Cetacean Res. Manage. (Special issue) 2*: 161- 169.
- Bjorndal KA. 1985. Nutritional ecology of sea turtles. *Copeia* 3:736– 751. doi:10.2307/1444767
- Bjorndal, K. A. 1997. Foraging ecology and nutrition of sea turtles. Pages 199-231 in P. L. Lutz and J. A. Musick, editors. *The biology of sea turtles*. CRC Press, Boca Raton, Florida, USA.
- Blazer, V. S., C. A. Ottinger and C. L. Densmore. 2007. Chapter 13. Factors affecting fish health. pp. 54-59. *In: Phillips, S. W. (ed.). Synthesis of U.S. Geological Survey science for the Chesapeake Bay ecosystem and implications for environmental management*. U.S. Geological Survey Circular 1316.
- Bottlenose Dolphin Take Reduction Plan Regulations. 2006. 71 Fed. Reg. 24776 (April 26, 2006).

- Brandt, S. B., and D. M. Mason. 2003. Effect of nutrient loading on Atlantic menhaden (*Brevoortia tyrannus*) growth rate potential in the Patuxent River. *Estuaries* 26(2A):298-309.
- Brush, G. S. 1986. Geology and paleoecology of Chesapeake Bay: A long-term monitoring tool for management. *J. Wash. Acad. Sciences* 76: 146-160.
- Brush, G.S. 2009. Historical land use, nitrogen, and coastal eutrophication: A paleoecological perspective. *Estuar. Coast.* 32: 18-28.
- Buchheister, A., T.J. Miller, E.D. Houde, D.H. Secor, and R.J. Latour. 2016. Spatial and temporal dynamics of Atlantic menhaden (*Brevoortia tyrannus*) recruitment along the Northwest Atlantic Ocean. *ICES J. Mar. Sci.* 73: 1147-1159.
- Burkholder, J. M., A. S. Gordon, P. D. Moeller, J. M. Law, K. J. Coyne, A. J. Lewitus, J. S. Ramsdell, H. G. Marshall, N. J. Deamer, S. C. Cary, J. W. Kempton, S. L. Morton, and P. A. Rublee. 2005. Demonstration of toxicity to fish and to mammalian cells by *Pfiesteria* species: Comparison of assay methods.
- Burkholder, J. M., E. J. Noga, C. W. Hobbs, H. B. Glasgow, and S. A. Smith. 1992. New "phantom" dinoflagellate is the causative agent of major estuarine fish kills. *Nature* 358:407-410 (see correction in *Nature* 360:768).
- Burnett, L. E. (1997). The challenge of living in hypoxic and hypercapnic aquatic environments. *American Zoology* 37: 633-640.
- Burton, D. T., L. B. Richardson, and C. J. Moore. 1980. Effect of oxygen reduction rate and constant low dissolved oxygen concentration on two estuarine fish. *Trans. Am. Fish. SOC.* 109:552-557.
- Burton, D. T., P. R. Abell, and T. P. Capizzi. 1979. Cold Shock effect of rate of thermal decrease on Atlantic menhaden, *Brevoortia tyrannus*. *Mar. Pollut. Bull.* 10:347-349.
- Carr, A. 1963. Panspecific reproductive convergence in *Lepidochelys kempii*. *Ergebnisse der Biologie* 26:298-303.
- Caswell, H., M. Fujiwara and S. Brault. (1999). Declining survival probability threatens the north Atlantic right whale. *Proc. Nat. Acad. Sci.* 96:3308-3313.
- CETAP. 1982. A characterization of marine mammals and turtles in the mid- and north Atlantic areas of the U.S. outer continental shelf. Cetacean and Turtle Assessment Program, University of Rhode Island. Final Report #AA551- CT8-48 to the Bureau of Land Management, Washington, DC, 538 pp.
- Checkley, D.M., Jr., S. Raman, G.L. Maillet and K.M. Mason. 1988. Winter storm effects on the spawning and larval drift of a pelagic fish. *Nature* 335(6188): 346-348.
- Christmas, J.Y., G. Gunter, and E.C. Whatley. 1960. Fishes taken in the menhaden fishery of Alabama, Mississippi and eastern Louisiana. U.S. FWS, Spec. Sci. Rep. Fish. No. 339, 10 p.
- Clagett, P.R. 2007. Human population growth and land-use change. *In*: Phillips, S.W. (ed). Synthesis of U.S. Geological Survey Science for the Chesapeake Bay Ecosystem and Implications for Environmental Management: U.S. Geological Survey Circular 1316. 63 p.
- Clapham, P.J. & Mayo, C.A. 1987. Reproduction and recruitment of individually identified humpback whales, *Megaptera novaeangliae*, observed in Massachusetts Bay, 1979-1985. *Can. J. of Zool.* 65: 2853-2863.
- Clark, C. W. 1995. Application of US Navy underwater hydrophone arrays for scientific research on whales. *Reports of the International Whaling Commission* 45: 210-212.

- Cooper, R. A. 1965. An unusually large menhaden, *Brevoortia tyrannus* (Latrobe), from Rhode Island. Transactions of the American Fisheries Society, 94:412.
- Corkeron, P., E. Josephson, K. Maze-Foley, and P.E. Rosel, editors. 2016. Draft U.S. Atlantic and Gulf of Mexico Marine Mammal Stocks Assessments, 2016. NOAA Technical Memorandum NOAA-NE-xxx. 343 p.
- Critical Habitat for the Endangered Carolina and South Atlantic Distinct Population Segments of Atlantic Sturgeon. 2016. 81 Fed. Reg. 36077 (June 3, 2016).
- Cross, F.A., D.S. Peters, and W.E. Schaaf. 1985. Implications of waste disposal in coastal waters on fish populations, pp. 383-399 *In*: Cardwell, R.D., R. Purdy, and R.C. Bahner (eds). Aquatic Toxicology and Hazard Assessment: Seventh Symposium. ASTM STP854. Amer. Soc. for Testing and Materials, Philadelphia.
- Designation of Critical Habitat for the Gulf of Maine, New York Bight, and Chesapeake Bay Distinct Population Segments of Atlantic Sturgeon. 2016. 81 Fed. Reg. 35701 (June 3, 2016).
- Determination of Nine Distinct Population Segments of Loggerhead Sea Turtles as Endangered or Threatened; Final Rule. 76 Fed. Reg. 58868 (September 22, 2011).
- Dryfoos, Robert L., Randall P. Cheek, and Richard L. Kroger. 1973. Preliminary analyses of Atlantic menhaden, *Brevoortia tyrannus*, migrations, population structure, survival and exploitation rates, and availability as indicated from tag returns. Fishery Bulletin 71(3):719-734.
- Durbin, A.G. and E.G. Durbin. 1998. Effects of menhaden predation on plankton populations in Narragansett Bay, Rhode Island. Estuaries 21(3): 449-465.
- Durbin, A.G., and E.G. Durbin. 1975. Grazing rates of the Atlantic menhaden, *Brevoortia tyrannus*, as a function of particle size and concentration. Mar. Biol. (Berl.) 33: 265-277.
- Dykstra, M., and A. S. Kane. 2000. *Pfiesteria piscicida* and ulcerative mycosis of Atlantic Menhaden — Current status of understanding. J. of Aquatic Animal Health 12: 18-25.
- Edward, J.L. 2009. An RNA:DNA-based index of growth in juvenile Atlantic menhaden (*Brevoortia tyrannus*): laboratory calibration and field assessment. University of Maryland, Marine-Estuarine Environmental Sciences, Masters Sci. thesis.
- Ehrhart, L.M., R.B. Sindler, and B.E. Witherington. 1986. Preliminary investigation of papillomatosis in green turtles: phase I--frequency and effects on turtles in the wild and in captivity. Final report to U.S. Department Commerce; NOAA, NMFS, Miami Laboratory. Contract No. 40-GENF-6-0060I.
- Endangered Species Act of 1973, Pub L. No. 93-205, 16 U.S.C. § 1531, 87 Stat. 884 (1973).
- Ferraro, S. P. 1980. Embryonic development of Atlantic menhaden, *Brevoortia tyrannus*, and a fish embryo age estimation method. U.S. Natl. Mar. Fish. Serv. Fish. Bull. 77:943-949.
- Final Listing Determinations for Two Distinct Population Segments of Atlantic Sturgeon (*Acipenser oxyrinchus*) in the Southeast. 77 Fed. Reg. 5914 (February 6, 2012).
- Final rule to List Eleven Distinct Population Segments of the Green Sea Turtle (*Chelonia mydas*) as Endangered or Threatened and Revision of Current Listings Under the Endangered Species Act; Final Rule. 81 Fed. Reg. 20057 (April 6, 2016).
- Forward, Jr., R.B., M.C. De Vries, R.A. Tankersley, D. Rittschof, W.F. Hettler, J.S. Burke, J.M. Welch and D.E. Hoss. 1999. Behaviour and sensory physiology of Atlantic menhaden larvae, *Brevoortia tyrannus*, during horizontal transport. *In*: Crowder, L.B. and F.E.



- Werner (eds.) Fisheries Oceanography of the Estuarine-Dependent Fishes of the South Atlantic Bight. Fish. Oceanogr. 8(suppl. 2): 37-56.
- Friedland KD, Hare JA. 2007. Long-term trends and regime shifts in sea surface temperature on the continental shelf of the northeast United States. Cont Shelf Res. 27(18):2313–28. doi: 10.1016/J.Csr.
- Friedland, K. D., D. W. Ahrenholz, J. W. Smith, M. Manning, and J. Ryan. 2006. Sieving functional morphology of the gill raker feeding apparatus of Atlantic menhaden. J. Exp. Zool. 305A:974-985.
- Friedland, K. D., Patrick D. Lynch, and Christopher J. Gobler. 2011. Time Series Mesoscale Response of Atlantic Menhaden *Brevoortia tyrannus* to Variation in Plankton Abundances. Journal of Coastal Research: Volume 27, Issue 6: pp. 1148 – 1158.
- Friedland, K.D., D.W. Ahrenholz, and J.F. Guthrie. 1989. Influence of plankton on distribution patterns of the filter-feeder *Brevoortia tyrannus* (Pisces, Clupeidae). Mar. Ecol. Prog. Ser. 54: 1-11.
- Friedland, K.D., D.W. Ahrenholz, and J.F. Guthrie. 1996. Formation and seasonal evolution of Atlantic menhaden juvenile nurseries in coastal estuaries. Estuaries 19(1): 105-114.
- Friedland, K.D., L.W. Haas, and J.V. Merriner. 1984. Filtering rates of the juvenile Atlantic menhaden *Brevoortia tyrannus* (Pisces: Clupeidae), with consideration of the effects of detritus and swimming speed. Mar. Biol. (Berl.) 84: 109-117.
- Geer, R.L. 2008. Shadow on the Chesapeake. Chesapeake Quarterly 7(3): 4-13.
- Gilbert, R.J., and AR. Heidt. 1979. Movements of the short nose sturgeon, *Acipenser brevirostrum*, in the Altamaha River. Assoc. Southeastern Biol. Bull. 26:35.
- Goetz, S. J., and P. Jantz. 2006. Sattelite maps show Chesapeake Bay urban development. EOS 87(15): 149, 152.
- Goshorn, D., J. Deeds, P. Tango, C. Poukish, A. Place, M. McGinty, W. Butler, C. Lockett, and R. Magnien. 2004. Occurrence of *Karlodinium micrum* and its association with fish kills in Maryland Estuaries. In Proceedings of the Tenth International Conference on Harmful Algae, St. Petersburg, FL.
- Gottlieb, S.J. 1998. Ecological role of Atlantic menhaden (*Brevoortia tyrannus*) in Chesapeake Bay and implications for management of the fishery. MS Thesis, U. of MD, MEES Program. 112 p.
- Greer, R.L. 1915. The menhaden fishing industry of the Atlantic coast. Rep. U.S. Comm. Fish., 1914, Append. 3, 27 p.
- Hain, J. H. W., M. J. Ratnaswamy, R. D. Kenney, and H. E. Winn. 1992. The fin whale, *Balaenoptera physalus*, in waters of the northeastern United States continental shelf. Rep. Int. Whal. Commn. 42: 653-669.
- Hall Jr., L.W., S.A. Fisher, and J.A. Sullivan. 1991. A synthesis of water quality and contaminants data for the Atlantic menhaden, *Brevoortia tyrannus*: implications for Chesapeake Bay. J. Environ. Sci. Health Part A Environ. Sci. Eng. 26: 1513-1544.
- Harbor Porpoise Take Reduction Plan Regulations. 1998. 63 Fed. Reg. 66464 (December 2, 1998).
- Harbor Porpoise Take Reduction Plan Regulations. 2013. 78 Fed. Reg. 61821 (October 4, 2013).

- Hare, J. A. and J. J. Govoni. 2005. Comparison of average larval fish vertical distributions among species exhibiting different transport pathways on the southeast United States continental shelf. *Fish. Bull.*, U.S. 103:728-736.
- Hare, J. A., S. Thorrold, H. Walsh, C. Reiss, A. Valle-Levinson and C. Jones. 2005. Biophysical mechanisms of larval fish ingress into Chesapeake Bay. *Marine Ecology Progress Series* 303:295-310.
- Harrison, R.W. 1931. The menhaden industry. U.S. Bur. Fish., Invest. Rep. 1, 113 p.
- Hettler Jr., W.F., and A.J. Chester. 1990. Temporal distribution of ichthyoplankton near Beaufort Inlet, North Carolina. *Mar. Ecol. Prog. Ser.* 68: 157-168.
- Hettler, W. F., and D. R. Colby. 1979. A1 teration of heat resistance of Atlantic menhaden, *Brevoortia tyrannus*, by photoperiod. *J. Comp. Biochem. Physiol.* 63A: 141-143.
- Hettler, W. F., Jr., D. S. Peters, D. R. Colby, and L. H. Laban. 1997. Daily variability in abundance of larval fishes inside Beaufort Inlet. *Fish. Bull.* 95:477-493.
- Hettler, W.F. 1976. Influence of temperature and salinity on routine metabolic rate and growth of young Atlantic menhaden. *J. Fish. Biol.* 8: 55-65.
- Hettler, W.F. 1981 Spawning and rearing Atlantic menhaden. *Prog. Fish-Cult.* 43:80-84.
- Higham, J.R., and W.R. Nicholson. 1964. Sexual maturation and spawning of Atlantic menhaden. *Fish. Bull.* 63: 255-271.
- Hilborn, R., Amoroso, R. O., Bogazzi, E., Jensen, O. P., Parma, A. M., Szuwalski, C., and C. J. Walters. 2017. When does fishing forage species affect their predators? *Fisheries Research.* 191:211-221.
- Hilgartner, W. B. and G.S. Brush. 2006. Prehistoric habitat stability and post-settlement habitat change in a Chesapeake Bay freshwater tidal wetland, USA. *Holocene* 16:479-494.
- Hirth, H.F. 1971. Synopsis of biological data on the green turtle *Chelonia* & (Linnaeus) 1758. FAO Fish. Synop. 85:I-8, 19.
- Houde unpublished. 2011. Unpublished data. Larval ingress research supported by NOAA Chesapeake Bay Office, Maryland DNR, and Atlantic States Marine Fisheries Commission. University of Maryland Center for Environmental Science, Chesapeake Biological Laboratory, Solomons, MD.
- Houde, E. D. and L. W. Harding, Jr. 2009. Menhaden abundance and productivity in Chesapeake Bay: linking the environment and primary production to variability in fish recruitment. Final Report to NOAA Chesapeake Bay Office, Annapolis, MD. Grant No. NA04NMF4570359. Ref. No.
- Houde, E. D., Annis, E. R., Harding, L. W., Mallonee, M. E., and M. J. Wilberg. 2016. Factors affecting the abundance of age-0 Atlantic menhaden (*Brevoortia tyrannus*) in Chesapeake Bay. *ICES Journal of Marine Science*, 73(9):2238-2251.
- Hughes, A. R., S. L. Williams, C. M. Duarte, K. L. Heck, Jr., and M. Waycott. 2009. Associations of concern: declining seagrasses and threatened dependent species. *Front. Ecol. Environ.* 7(5): 242-246.
- Humphrey, J., Wilberg, M.J., Houde E.D. & M. C. Fabrizio. 2014. Effects of Temperature on Age-0 Atlantic Menhaden Growth in Chesapeake Bay. *Transactions of the American Fisheries Society.* Vol. 143. Pages 1255-1265.

- Identification of 14 Distinct Population Segments of the Humpback Whale (*Megaptera novaeangliae*) and Revision of Species-Wide Listing; Final Rule. 81 Fed. Reg. 62259 (September 8, 2016).
- International Whaling Commission. 1992. Report of the comprehensive assessment special meeting on North Atlantic fin whales. Rep. int. Whal. Commn 42:595B644.
- Judy, M.H., and R.M. Lewis. 1983. Distribution of eggs and larvae of Atlantic menhaden, *Brevoortia tyrannus*, along the Atlantic coast of the United States. U.S. NMFS. Spec. Sci. Rep. Fish. 774. 23 p.
- June, F.C., and J.L. Chamberlin. 1959. The role of the estuary in the life history and biology of Atlantic menhaden. Proc. Gulf Carib. Fish. Inst. 11: 41-45.
- Katona, S. K., and J. A. Beard. 1990. Population size, migrations, and feeding aggregations of the humpback whale (*Megaptera novaeangliae*) in the western North Atlantic Ocean. Rep. int. Whal. Commn. Special Issue 12: 295- 306.
- Keinath, J.A., J.A. Musick, and R.A. Byles. 1987. Aspects of the biology of Virginia sea turtles: 1979-1986. Virginia Journal of Science 38(2):81.
- Kendall, A.W. and J.W. Reintjes. 1975. Geographic and hydrographic distribution of Atlantic menhaden eggs and larvae along the middle Atlantic coast from R/V Dolphin cruises, 1965-1966. NMFS Fish. Bull. 73: 317-355.
- Kenney, R. D. 2002. North Atlantic, North Pacific and southern right whales. Pages 806- 813 In W. F. Perrin, B. Wursig, J. G. M. Thewissen (eds.), Encyclopedia of marine mammals. Academic Press, San Diego, CA.
- Kimmel, D. G., W. D. Miller, L. W. Harding Jr., E. D. Houde, and M. R. Roman. 2009. Estuarine ecosystem response captured using a synoptic climatology. Estuaries and Coasts. 32:3: 403-409.
- Kiryu, Y., J. D. Shields, W. K. Vogelbein, D. E. Zwerner, and H. Kator. 2002. Induction of skin ulcers in Atlantic menhaden by injection and aqueous exposure to the zoospores of *Aphanomyces invadans*. J. of Aquatic Animal Health 14(1): 11-24.
- Kleisner, K.M., M.J. Fogarty, S. McGee, A. Barnett, P. Fratantoni, J. Greene, J.A. Hare, S.M. Lucey, C. McGuire, J. Odell, and V.S. Saba. 2016. The effects of sub-regional climate velocity on the distribution and spatial extent of marine species assemblages. PLoS ONE 11(2): e0149220. doi:10.1371/journal.pone.0149220
- Knowlton, A.R. and S.D. Kraus. 2001. Mortality and serious injury of North Atlantic right whales (*Eubalaena glacialis*) in the North Atlantic Ocean. J. Cetacean Res. Manage. (Special Issue) 2: 193-208.
- Kraus, S. D., M. J., Crone and A. R. Knowlton. 1988. The North Atlantic right whale. Pages 684-698 in W. J. Chandler, ed. Audubon Wildlife Report, 1988/1989. Academic Press, New York, NY.
- Kroger, R. L., J. F. Guthrie, and M. H. Judy. 1974. Growth and first annulus formation of tagged and untagged Atlantic menhaden. Trans. Am. Fish. SOC. 103:292-296.
- Laist, D. W., Knowlton, A. R., Mead, J. G., Collet, A. S. and Podesta, M. 2001. Collisions between ships and whales. *Marine Mammal Science* 17(1): 35-75.
- Laney, Wilson, Personal Communication. USFWS. March 2017.
- Levine, J. F. 1990b. Species distribution of ulcerative lesions on finfish in the Tar-Pamlico River Estuary, North Carolina. Dis. of Aquatic Org. 8:1-5.

- Levine, J. F., J. H. Hawkins, M. J. Dykstra, E. J. Noga, D. W. Moye, and R. S. Cone 1990a. Epidemiology of Ulcerative Mycosis in Atlantic Menhaden in the Tar-Palmico River Estuary, North Carolina. *J. of Aquatic Animal Health* 2:162-171.
- Lewis R. M. and W. F. Hettler, Jr. 1968. Effect of temperature and salinity on the survival of young Atlantic menhaden, *Brevoortia tyrannus*. *Trans. Am. Fish. Soc.* 97: 344-349.
- Lewis, R. M. 1965. The effect of minimum temperature on the survival of larval Atlantic menhaden, *Brevoortia tyrannus*. *Trans. Am. Fish. Soc.* 94: 409-412.
- Lewis, R.M. 1966. Effects of salinity and temperature on survival and development of larval Atlantic menhaden, *Brevoortia tyrannus*. *Trans. Am. Fish. Soc.* 95: 423-426.
- Lewis, R.M., and W.C. Mann. 1971. Occurrence and abundance of larval Atlantic menhaden, *Brevoortia tyrannus*, at two North Carolina Inlets with notes on associated species. *Trans. Am. Fish. Soc.* 100: 296-301.
- Lewis, R.M., D.W. Ahrenholz, and S.P. Epperly. 1987. Fecundity of Atlantic menhaden, *Brevoortia tyrannus*. *Estuaries* 10(4): 347-350.
- Lewis, V.P., and D.S. Peters. 1984. Menhaden - a single step from vascular plant to fishery harvest. *J. Exp. Mar. Biol. Ecol.* 84: 95-100.
- Light, P.R., and K.W. Able. 2003. Juvenile Atlantic menhaden (*Brevoortia tyrannus*) in Delaware Bay, USA are the result of local and long-distance recruitment. *Estuar. Coast. Shelf. S.* 57:1007-1014.
- List of Fisheries for 2001. 66 Fed. Reg. 42780 (August 15, 2001).
- List of Fisheries for 2003. 68 Fed. Reg. 41725 (July 15, 2003).
- List of Fisheries for 2006. 71 Fed. Reg. 48802 (August 22, 2006).
- List of Fisheries for 2007. 72 Fed. Reg. 14466 (March 28, 2007).
- List of Fisheries for 2012. 76 Fed. Reg. 73911 (November 29, 2011).
- List of Fisheries for 2017. 82 Fed. Reg. 3655 (January 12, 2017).
- Lorenzen, K. 1996. The relationship between body weight and natural mortality in juvenile and adult fish: A comparison of natural ecosystems and aquaculture. *Journal of Fish Biology* 49:627-647.
- Love, J. W., A. K. Johnson and E. B. May. 2006. Spatial and temporal differences of Atlantic menhaden (*Brevoortia tyrannus*) recruitment across major drainages (1966-2004) of the Chesapeake Bay watershed. *Estuaries and Coasts* 29:794-801.
- Lozano, C. and E. D. Houde. 2013. Factors contributing to variability in larval ingress of Atlantic menhaden, *Brevoortia tyrannus*. *Estuarine, Coastal and Shelf Science*, 118:1-10.
- Lozano, C., Houde, E. D., Wingate, R. L., and D. H. Sector. 2012. Age, growth and hatch dates of ingressing larvae and surviving juveniles of Atlantic menhaden *Brevoortia tyrannus*. *Journal of Fish Biology*, 81:1665-1685.
- Luo, J., K. J. Hartman, S. B. Brandt, C. F. Cerco, and T. H. Rippetoe. 2001. A spatially-explicit approach for estimating carrying capacity: an application for the Atlantic menhaden (*Brevoortia tyrannus*) in Chesapeake Bay. *Estuaries* 24(4):545-556.
- Lutcavage, M. and J.A. Musick. 1985. Aspects of sea turtle biology in Virginia. *Copeia* 2:449-456.
- Lynch, A. J., J. R. McDowell, J. E. Graves. 2010. A molecular genetic investigation of the population structure of Atlantic menhaden (*Brevoortia tyrannus*). *Fishery Bulletin* 108:87-97.

- Lynch, P.D., M.J. Brush, E.D. Condon, and R.J. Latour. 2010. Net removal of nitrogen through ingestion of phytoplankton by Atlantic menhaden (*Brevoortia tyrannus*) in Chesapeake Bay. *Marine Ecological Progress Series* 401: 195-209.
- Magnuson-Stevens Fishery Conservation and Management Act, Pub. L. No. 94-265, 16 U.S.C. § 1801 et seq., 90 Stat. 331 (1976).
- Manderson, John, Personal Communication. NOAA Northeast Fishery Science Center. April 2017.
- Marine Mammal Protection Act of 1972 As Amended, Pub. L. No. 92-522, 16 U.S.C. § 11361-1362, 1371-1389, 1401-1407, 1411-1418, 1421-1421h, 1423-1423h, 86 Stat. 1027 (1972).
- MDSG, 2009. EBFM Menhaden Species Team. Ecosystem-Based Fisheries Management for Chesapeake Bay: Menhaden Background and Issue Briefs. Maryland Sea Grant, College Park, MD. UM-SG-TS-2009-08.
- Miller, W. D., and L. W. Harding, Jr. 2007. Climate forcing of the spring bloom in Chesapeake Bay. *Marine Ecology Progress Series* 331:11-22.
- Musick, J. A., and C. J. Limpus. 1997. Habitat utilization and migration in juvenile sea turtles. Pages 137-164 in P. L. Lutz and J. A. Musick, editors. *The biology of sea turtles*. CRC Press, Boca Raton, Florida, USA.
- National Marine Fisheries Service (NMFS). 1991. Proposed regime to govern the interactions between marine mammals and commercial fishing operations after October 1, 1993. Draft Environmental Impact Statement, June 1991.
- NMFS. 1993. Report on Implementation of the Marine Mammal Protection Act Interim Exemption Program, 1988-1993. Office of Protected Resources, NMFS, NOAA. 63 pp.
- NMFS. 1995. Status Reviews of Sea Turtles Listed Under the Endangered Species Act of 1973. Silver Spring, MD.
- NMFS. 1997. Fin Whale (*Balaenoptera physalus*): Western North Atlantic Stock.
- NMFS. 1999. Endangered Species Act Section 7 Consultation. Biological Opinion. Consultation Regarding the Federal Atlantic Herring Fishery.
- NMFS. 2002. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2002.
- NMFS. 2007. Hawksbill Sea Turtle (*Eretmochelys imbricata*) 5-Year Review: Summary and Evaluation. Office of Protected Resources. Silver Spring, MD.
- NMFS. 2008. Bottlenose Dolphin (*Tursiops truncatus*): Western North Atlantic Coastal Morphotype Stocks.
- NMFS. 2011. Fin Whale (*Balaenoptera physalus*) 5-Year Review: Summary and Evaluation. Office of Protected Resources. Silver Spring, MD.
- NMFS. 2012. North Atlantic Right Whale 5 Year Review: Summary and Evaluation. Northeast Regional Office. Gloucester, MA.
- NMFS. 2013. Biological Report on the Designation of Marine Critical Habitat for the Loggerhead Sea Turtle, *Caretta caretta*.
- NMFS. 2013. Leatherback Sea Turtle (*Dermochelys coriacea*) 5-Year Review: Summary and Evaluation. Office of Protected Species, Silver Spring, MD.
- NMFS. 2015. Standardized Bycatch Reporting Methodology: An Omnibus Amendment to the Fishery Management Plans of the Mid-Atlantic and New England Regional Fishery Management Councils.

- Nelson, W.R., M.C. Ingham, and W.E. Schaaf. 1977. Larval transport and year-class strength of Atlantic menhaden, *Brevoortia tyrannus*. Fish. Bull. 75: 23-41.
- Nicholson, W.R. 1972. Population structure and movements of Atlantic menhaden, *Brevoortia tyrannus*, as inferred from back-calculated length frequencies. Ches. Sci. 13: 161-174.
- Nicholson, W.R. 1978. Movements and population structure of Atlantic menhaden indicated by tag returns. Estuaries 1(3): 141-150.
- Noga, E. J. and M. J. Dykstra. 1986. Oomycete fungi associated with Ulcerative Mycosis in Menhaden, *Brevoortia tyrannus* (Latrobe). Journal of Fish Diseases 9(1):47-53.
- Noga, E. J., J. F. Levine, M. J. Dykstra, and J. H. Hawkins. 1988. Pathology of ulcerative mycosis in Atlantic menhaden *Brevoortia tyrannus*. Dis. of Aquatic Org. 4: 189-197.
- Nordlie, F. G. 1976. Influence of environmental temperature on plasma ionic and osmotic concentrations in *Mugil cephalus*. L. Comp. Biochem. Physiol. 55A:379-381.
- Nordlie, F. G., W. A. Szelistowski, and W. C. Nordlie. 1982 Ontogenesis of osmotic regulation in the striped mullet, *Mugil cephalus*. L. J. Fish Biol. 20:79-86.
- North Carolina Department of Environmental Quality. 2015. North Carolina Division of Water Resources Annual Report of Fish Kill Events 2015. North Carolina Department of Environmental Quality Division of Water Resources, Raleigh, NC.
- Orth, R. J., T. J. B. Carruthers, W. G. Dennison, C. M. Duarte, J. W. Fourqurean, K. L. Heck, Jr., A. R. Hughes, G. A. Kendrick, W. J. Kenworthy, S. Olyarnik, F. T. Short, M. Waycott, and S. L. Williams. 2006. A global crisis for seagrass ecosystems. BioScience 56(12): 987-996.
- Oviatt, A. 1977. Menhaden, sport fish and fishermen, p. 53-66 In: Clepper, H. [Ed.] Marine recreational fisheries 2. Sport Fish. Inst., 220 p.
- Oviatt, C.A., A.L. Gall, and S.W. Nixon. 1972. Environmental effects of Atlantic menhaden on surrounding waters. Chesapeake Sci. 13: 321-323.
- Paerl, H. W., J. L. Pickney, J. M. Fear, and B. L. Peierls. 1998. Ecosystem responses to internal and watershed organic matter loading: consequences for hypoxia in the eutrophying Neuse River Estuary, North Carolina, USA. Marine Ecol. Progress Ser. 166: 17-25.
- Perry S. L., DeMaster D. P. and Silber G. K. 1999. The fin whale. *Marine Fish Review* 61(1): 44-51.
- Pershing, A. J., Alexander, M. A., Hernandez, C. M., Kerr, L. A., Bris, A. L. Mills, K. E., Nye, J. A., Record, N. R., Scannell, H. A., Scott, J. D., Sherwood, G. D., and A. C. Thomas. 2015. Slow adaptation in the face of rapid warming leads to collapse of the Gulf of Maine cod fishery. *Science*, Vol. 350, Issue 6262: 809-812.
- Peters, D.S., and V.P. Lewis. 1984. Estuarine productivity: Relating trophic ecology to fisheries, p. 255-264 In: B.J. Copeland, K. Hart, N. Davis and S. Friday, (eds.) Research Managing the Nation's Estuaries. UNC Sea Grant College, Pub. UNC-SG-84-08, 420 p.
- Peters, D.S., and W.E. Schaaf. 1981. Food requirements and sources for juvenile Atlantic menhaden. Trans. Am. Fish. Soc. 110: 317-324.
- Poukish, Charles, Personal Communication. Environmental Assessment Division, Maryland Department of the Environment. March 2017.
- Quinlan, J.A., B.O. Blanton, T.J. Miller, and F.E. Werner. 1999. From spawning grounds to the estuary: using linked individual-based and hydrodynamic models to interpret patterns and processes in the oceanic phase of Atlantic menhaden *Brevoortia tyrannus* life history. Fish. Ocean. 8 (Supplement 2): 224-246.

- Reimschuessel, R., C. M. Gieseke, C. Driscoll, A. Baya, A. S. Kane, V. S. Blazer, J. J. Evans, M. L. Kent, J. D. W. Moran and S. L. Poynton. 2003. Myxosporean plasmodial infection associated with ulcerative lesions in young-of-the-year Atlantic menhaden in a tributary of the Chesapeake Bay, and possible links to *Kudoa clupeiidae*. *Diseases Aquatic Organisms* 53:143-166.
- Reintjes, J.W., and A. Pacheco. 1966. The relation of menhaden to estuaries. *Am. Fish. Soc. Spec. Publ.* 3: 50-58.
- Reish, R.L., R.B. Deriso, D. Ruppert, and R.J. Carroll. 1985. An investigation of the population dynamics of Atlantic menhaden (*Brevoortia tyrannus*). *Can. J. Fish. Aquat. Sci.* 42 (Suppl. 1): 147-157.
- Rice, J.A., Quinlan, J.A., Nixon, S. W., Hettler, W. F., Warlen, S. M., and P. M. Steggmann. 1999. Spawning and transport dynamics of Atlantic menhaden: inferences from characteristics of immigrating larvae and predictions of a hydrodynamic model. *Fisheries Oceanography* 8:93-110.
- Rogers, S. G., T. E. Targett, and S. B. VanSant. 1984. Fish-nursery use in Georgia salt-marsh estuaries: the influence of springtime freshwater conditions. *Trans. AM. Fish. Soc.* 113:595-606.
- Rogers, S.G. and M.J. Van Den Avyle. 1989. Species Profiles: Life histories and environmental requirements of coastal fishes and invertebrates (Mid-Atlantic). Atlantic Menhaden. *Biol. Rept.* 82(11.108) TR EL-82-4. 23 p.
- Schaaf, W. E. and G. R. Huntsman. 1972. Effects of fishing on the Atlantic menhaden stock: 1955-1969. *Transactions of the American Fisheries Society*, 101:290-297.
- Schick, R. S., P. N. Halpin, A. J. Read, C. K. Slay, S. D. Kraus, B. R. Mate, M. F. Baumgartner, J. J. Roberts, B. D. Best, C. P. Good, S. R. Loarie, J.S. Clark. 2009. Striking the Right Balance in Right Whale Conservation. *Canadian Journal of Fisheries and Aquatic Sciences* 66(9):1399-1403.
- Schueller, A.M., E.H. Williams, and R.T. Cheshire. 2014. A proposed, tested, and applied adjustment to account for bias in growth parameter estimates due to selectivity. *Fisheries Research* 158: 26-39.
- Sherman, K., I. Belkin, K.D. Friedland, J. O'Reilly, and K. Hyde. 2009. Accelerated warming and emergent trends in fisheries biomass yields of the world's largest marine ecosystems. *AMBIO: A Journal of the Human Environment* 38(4): 215-224.
- Smith, H.M. 1896. Notes on an investigation of the menhaden fishery in 1894 with special reference to the 93 food fishes taken. *Bull. U.S. Fish Comm.* 15: 285-302.
- Smith, J. W. 1991. The Atlantic and gulf menhaden purse seine fisheries: origins, harvesting technologies, biostatistical monitoring, recent trends in fisheries statistics, and forecasting. *Mar. Fish. Rev.* 53(4):28-41.
- Smith, J. W. 1999. Distribution of Atlantic menhaden, *Brevoortia tyrannus*, purse-seine sets and catches from southern New England to North Carolina, 1985-1996, NOAA Tech. Rep. NMFS 144, 22p.
- Smith, JW and WB O'Bier. 2011. The bait purse-seine fishery for Atlantic menhaden, *Brevoortia tyrannus*, in the Virginia portion of Chesapeake Bay. *Mar Fish Rev* 73(1): 1-12.
- Smith, Kent, Personal Communication. Florida Fish Wildlife Conservation Commission. March 2017.

- Stegmann, P.M., J.A. Quinlan, F.E. Werner, B.O. Blanton, and P. Berrien. 1999. Atlantic menhaden recruitment to a southern estuary: Defining potential spawning regions. *Fish. Oceanogr.* 8: 111-123.
- Stephens, E. B., M. W. Newman, A. L. Zachary and F. M. Hetrick. (1980). A viral aetiology for the annual spring epizootics of Atlantic menhaden, *Brevoortia tyrannus* (Latreille) in Chesapeake Bay. *Journal of Fish Diseases* 3:387-398.
- Stine et al. 2005. Mycobacterial infection in laboratory-maintained Atlantic menhaden. *J. Aquatic Animal Health* 17:380-385.
- Stout, V.F., C.R. Houle, and F.L. Beezhold. 1981. A survey of chlorinated hydrocarbon residues in menhaden fishery products. *Mar. Fish. Rev.* 43(3): 1-13.
- Taking of Marine Mammals Incidental to Commercial Fishing Operations; Bottlenose Dolphin Take Reduction Plan Regulations; Sea Turtle Conservation; Restrictions to Fishing Activities; Final Rule. 71 Fed. Reg. 24776 (April 26, 2006).
- Thompson, C. 2010. The Gulf of Maine in Context: State of the Gulf of Maine Report. Fisheries and Oceans Canada. Dartmouth, NS.
- Threatened and Endangered Status for Distinct Population Segments of Atlantic Sturgeon in the Northeast Region. 77 Fed. Reg. 5880 (February 6, 2012).
- U.S. Census Bureau. 2010. Coastline Population Trends in the United States: 1960 to 2008 Population Estimates and Projections. P25-1139. <https://www.census.gov/prod/2010pubs/p25-1139.pdf>
- Vaughan, D.S., and J.W. Smith. 1988. A stock assessment of the Atlantic menhaden, *Brevoortia tyrannus*, fishery. NOAA Tech. Rep. NMFS 63, 18 p.
- Viverette, C. B., Garman, G. ., McIninch, S. P., Markham, A. C., Watts, B. D., and S. A. Macko. 2007. Finfish-waterbird trophic interactions in tidal freshwater tributaries of the Chesapeake Bay. *Waterbirds.* 32:1: 50-62.
- Walford, L.A., and R.I. Wicklund. 1968. Monthly sea temperature structure from the Florida Keys to Cape Cod. Serial Atlas of the Marine Environment. Folio 15. American Geographical Society, N .Y.
- Walsh, H. J., Richardson, D. E., Marancik, K. E., and Hare, J. A. 2015. Long-term changes in the distributions of larval and adult fish the Northeast U.S. Shelf Ecosystem. *PLoS ONE*, 10: e0137382.
- Waring GT, Josephson E, Fairfield-Walsh CP, Maze-Foley K, (eds.). 2009. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments -- 2008. NOAA Tech Memo NMFS NE 210; 440 p.
- Waring, G.T. J.M. Quintal and S.L. Swartz (eds.). 2000. U.S. Atlantic and GOM Marine Mammal Stock Assessments- 2000. NOAA Tech Memo. NMFS-NE-162, U.S. DOC. Washington, D.C. 303 p.
- Waring, G.T., E. Josephson, K. Maze-Foley, and P.E. Rosel, editors. 2016. U.S. Atlantic and Gulf of Mexico Marine Mammal Stocks Assessments, 2015. NOAA Technical Memorandum NOAA-NE-238. 512 p.
- Warlen, S. M. 1994. Spawning time and recruitment dynamic of larval Atlantic menhaden, *Brevoortia tyrannus*, in a North Carolina estuary. *Fisheries Bulletin*, 92:420-433.
- Warlen, S.M., D.A. Wolfe, C.W. Lewis, and D.R. Colby. 1977. Accumulation and retention of dietary 14C-DDT by Atlantic menhaden. *Trans. Am. Fish. Soc.* 106: 95-104.



- Warlen, S.M., K.W. Able, and E.H. Laban. 2002. Recruitment of larval Atlantic menhaden (*Brevoortia tyrannus*) to North Carolina and New Jersey estuaries: evidence for larval transport northward along the east coast of the United States. *Fish. Bull.* 100(3): 609-623.
- Werner, F.E., B.O. Blanton, J.A. Quinlan and R.A. Luettich, Jr. 1999. Physical oceanography of the North Carolina continental shelf during the fall and winter seasons: implications for the transport of larval menhaden. In: Crowder, L.B. and F.E. Werner (eds.) *Fisheries Oceanography of the Estuarine-dependent Fishes of the South Atlantic Bight*. *Fish. Oceanogr.* 8(suppl. 2): 7-21.
- Westman, J. R., and R. F. Nigrelli. 1955. Preliminary studies of menhaden and their mass mortalities in Long Island and New Jersey waters. *N. Y. Fish Game J.* 2: 142-153.
- Whitehurst, J.W. 1973. The menhaden fishing industry in North Carolina. UNC-Sea Grant Publ. No. UNC-SG-72-12, 51 p.
- Wiley, D. N., R. A. Asmutis, T. D. Pitchford, and D. P. Gannon. 1995. Stranding and mortality of humpback whales, *Megaptera novaeangliae*, in the mid-Atlantic and southeast United States, 1985-1992. *Fish. Bull., U.S.* 93: 196- 205.
- Wilkins, E. P. H., and R. M. Lewos. 1971. Abundance and distribution of young Atlantic menhaden (*Brevoortia tyrannus*) in the White Oak River estuary, North Carolina. *Fish. Bull., U.S.* 69: 783-789.
- Winn, H.E., C.A. Price and P.W. Sorensen. (1986). The distributional biology of the right whale (*Eubalaena glacialis*) in the western north Atlantic. *Rep. Int. Whal. Comm. (Special issue)* 10:129-138.
- Wood, R. J., and H. M. Austin. 2009. Synchronous multidecadal fish recruitment patterns in Chesapeake Bay, USA. *Can. J. Fish. Aquat. Sci.*
- Wood, R. J., E. D. Houde and S. Jung. 2004. Variability in the dynamics of forage fish abundances in Chesapeake Bay: retrospective analysis models and synthesis. Pages 97- 107. In; Orner, D. M. (ed). *Chesapeake Bay Fisheries Research Program, Symposium Report - 2003*. NOAA Chesapeake Bay Office, Annapolis, MD.
- Wood, R.J. 2000. Synoptic scale climatic foraging of multispecies fish recruitment patterns in Chesapeake Bay. Coll. of William and Mary, Ph.D. Dissertation, 163 p.
- Wynne, K. and M. Schwartz. 1999. *Marine Mammals and Turtles of the U. S. Atlantic and Gulf of Mexico*. Rhode Island Sea Grant. Narragansett, Rhode Island. 114 pp.

## 9.0 TABLES

**Table 2:** Atlantic menhaden total commercial landings by jurisdiction (in pounds). This includes directed landings, landings under the bycatch allowance, and episodic events landings. Included in this table is New York’s recalibrated landings.

	ME	NH	MA	RI	CT	NY	NJ	DE	MD	PFRC	VA	NC	SC	GA	FL
1985	C	C	3,039,625	8,388,046	234,800	2,612,786	2,879,766	176,135	5,372,193	16,768,889	620,119,243	97,738,403	C	-	7,579,674
1986	C	C	3,411,000	10,389,187	254,400	1,157,906	2,453,593	C	5,449,350	10,971,973	445,664,204	66,377,931	9,952	-	7,997,973
1987	C	C	1,215,175	13,609,224	94,900	599,147	2,563,163	22,034	5,793,683	13,120,698	622,989,111	55,498,571	C	-	2,776,777
1988	C	C	8,047,320	15,583,437	175,200	1,460,529	1,984,045	127,713	6,430,164	13,231,368	565,962,962	73,715,713	C	-	1,026,228
1989	C	C	1,459,402	19,033,173	148,500	1,301,178	2,854,361	104,382	6,166,236	8,334,174	590,581,595	66,756,288	C	-	1,372,959
1990	5,744,597	264,500	1,709,605	17,102,650	96,706	1,882,405	9,041,459	167,116	1,662,275	4,523,776	699,320,699	72,231,989	-	-	2,636,497
1991	C	C	12,798,310	5,090,375	96,300	1,883,680	16,597,402	278,774	3,540,179	5,376,264	638,130,543	110,528,754	C	-	2,062,983
1992	C	C	13,499,450	2,849,359	91,200	3,278,878	27,470,906	131,033	1,777,088	5,061,565	566,222,504	57,515,712	C	-	2,788,592
1993	C	C	1,211,569	5,146,280	195,827	3,039,248	28,296,741	164,406	2,326,613	7,884,001	622,024,284	64,711,384	C	-	2,584,766
1994	-	-	351,251	533,800	60,128	2,785,679	38,176,201	78,672	2,369,071	6,680,937	502,576,593	73,853,901	-	-	1,387,012
1995	-	-	2,910,613	5,873,315	255,264	3,152,199	36,572,507	101,388	4,264,754	7,002,818	691,212,717	58,374,046	-	-	687,944
1996	-	-	8,500	802	82,851	32,261	35,516,726	100,063	3,906,808	5,111,423	579,027,717	56,583,873	-	-	294,936
1997	C	C	238,500	5,750	72,329	1,604,968	38,118,579	55,733	3,457,237	5,757,370	494,098,429	56,295,597	C	-	408,492
1998	C	C	121,200	400	338,817	1,246,083	33,287,641	58,048	2,933,818	3,980,738	513,869,130	97,473,775	C	-	301,566
1999	-	-	292,800	2,330	30,298	703,714	27,753,567	78,551	4,460,534	4,860,883	374,934,651	57,434,540	-	-	288,144
2000	-	-	72,600	320,000	14,423	1,639,293	31,266,780	47,995	3,935,307	5,023,374	358,228,939	42,034,812	-	-	260,710
2001	-	-	144,600	-	38,865	1,670,079	26,375,573	53,257	3,970,243	3,329,035	484,517,820	57,261,488	-	-	179,951
2002	-	-	301,500	5,750	1,138,788	1,288,543	24,716,412	80,261	4,023,389	3,122,050	362,633,153	55,600,503	-	-	55,304
2003	-	-	218,255	62	46,515	939,018	17,080,463	43,193	3,163,252	2,438,790	372,479,419	68,444,122	-	-	35,810
2004	C	C	-	39,232	33,210	1,574,628	20,678,813	75,635	5,369,952	5,411,043	394,093,117	48,318,743	C	-	21,220
2005	-	-	2,177,724	14,453	30,636	2,523,783	17,574,826	120,658	10,635,776	4,759,905	370,689,041	50,987,985	-	-	39,404
2006	-	-	2,524,255	15,524	866,235	2,352,417	21,290,309	111,405	6,841,296	3,413,517	369,912,280	12,846,438	-	-	157,117
2007	C	C	5,543,805	8,948	90,254	1,401,010	37,202,485	81,850	11,210,764	5,036,906	416,447,111	1,134,167	C	-	71,373
2008	C	C	14,131,256	269,288	104,881	1,188,244	38,210,688	72,970	8,153,008	4,820,645	344,813,285	645,231	C	-	60,098
2009	166,942	33	6,719,048	107,548	170,907	957,546	33,329,177	69,476	7,756,192	3,191,905	349,413,370	2,124,733	-	-	52,800
2010	C	C	4,973,857	78,149	42,489	1,143,147	50,497,253	51,933	6,903,300	2,790,728	430,527,995	1,299,130	C	-	76,593
2011	56,000	-	116,151	83,899	26,929	808,686	74,324,485	70,326	6,505,890	2,759,597	411,802,254	3,529,967	-	-	146,534
2012	C	C	1,648,395	106,606	37,454	748,289	85,457,890	140,375	13,746,098	5,892,228	386,545,236	538,783	C	-	126,141
2013	-	-	2,314,888	99,821	26,463	1,187,525	39,819,342	125,909	7,074,727	3,295,295	315,724,384	454,172	-	-	224,872
2014	-	-	2,226,294	500,903	36,552	825,549	41,449,670	161,524	7,005,271	3,175,893	324,209,381	917,375	-	-	220,587
2015	C	C	2,932,828	2,060,381	87,472	1,467,861	47,810,037	150,542	7,551,430	2,739,035	351,281,666	896,919	C	-	377,729
2016	4,548,566	-	3,069,433	317,328	66,957	1,439,173	45,826,473	75,238	5,635,694	2,504,823	335,641,958	397,725	-	-	272,425

**Table 3:** Bait and reduction landings from 1985-2016 in thousands of mt.

	<b>Reduction Landings (1000 mt)</b>	<b>Bait Landings (1000 mt)</b>
<b>1985</b>	306.7	26.6
<b>1986</b>	238.0	21.6
<b>1987</b>	327.0	25.5
<b>1988</b>	309.3	43.8
<b>1989</b>	322.0	31.5
<b>1990</b>	401.2	28.1
<b>1991</b>	381.4	29.7
<b>1992</b>	297.6	33.8
<b>1993</b>	320.6	23.4
<b>1994</b>	260.0	25.6
<b>1995</b>	339.9	28.4
<b>1996</b>	292.9	21.7
<b>1997</b>	259.1	24.2
<b>1998</b>	245.9	38.4
<b>1999</b>	171.2	34.8
<b>2000</b>	167.2	33.5
<b>2001</b>	233.7	35.3
<b>2002</b>	174.0	36.2
<b>2003</b>	166.1	33.2
<b>2004</b>	183.4	34.0
<b>2005</b>	146.9	38.4
<b>2006</b>	157.4	27.2
<b>2007</b>	174.5	42.1
<b>2008</b>	141.1	47.6
<b>2009</b>	143.8	39.2
<b>2010</b>	183.1	42.7
<b>2011</b>	174.0	52.6
<b>2012</b>	160.6	63.7
<b>2013</b>	131.0	37.0
<b>2014</b>	131.1	41.8
<b>2015</b>	143.5	45.9
<b>2016</b>	137.4	44.4

**Table 4:** Timeline for BERP Workgroup development of menhaden-specific ecosystem reference points.

2016	Summer	Review steele-henderson multi-species model
		Evaluate data needs of model
		Review preliminary methodology of statistical catch-at-age and production models
Fall	Review results of Ecopath with Ecosim model	
2017	Winter	Review multi-species statistical catch at age model
		Evaluate data needs of model
	Summer	Review multi-species production model
		Evaluate data needs of model
	Fall	Review finalized modeling plan and candidate models
		Decide which candidate models will be included for ERP development and peer review
Discuss data requirements of the models and data sources		
2018	Winter	<b>Data Workshop #1</b>
		Review data sources for the multi-species models
		Develop criteria for inclusion of data in models
	Summer	<b>Data Workshop #2</b>
		Approve data sources of multi-species models
Discuss standardization of data across sources		
2019	Winter	<b>Assessment Workshop #1</b>
		Review base run results from multi-species models
		Discuss sensitivity runs for models
	Spring	<b>Assessment Workshop #2</b>
		Review final model results of multi-species models
	Summarize findings and recommendations	
	Summer	Write stock assessment report
Fall	<b>Peer Review Workshop</b>	
Independent review of multi-species models and single-species BAM model		

**Table 5:** 2016 reporting requirements in the menhaden commercial fishery per state.

State	Dealer Reporting	Harvester Reporting	Notes
ME	monthly	<b>monthly/daily</b>	Harvesters landing greater than 6,000 lbs must report daily during episodic event
NH	<b>weekly</b>	monthly	Exempt from timely reporting. Implemented weekly, trip level reporting for state dealers.
MA	<b>weekly</b>	monthly/daily	Harvesters landing greater than 6,000 lbs must report daily
RI	<b>twice weekly</b>	quarterly/daily	Harvesters using purse seines must report daily
CT	<b>weekly/monthly</b>	monthly	No directed fisheries for Atlantic menhaden
NY	<b>Weekly</b>	monthly	Capability to require weekly harvester reporting if needed
NJ	<b>weekly</b>	monthly	All menhaden sold or bartered must be done through a licensed dealer
DE	—	<b>monthly/daily</b>	Harvesters landing menhaden report daily using IVR
MD	monthly	<b>monthly/daily</b>	PN harvest is reported daily, while other harvest is reported monthly.
PRFC	—	<b>weekly</b>	Trip level harvester reports submitted weekly. When 70% of quota is estimated to be reached, then pound netters must call in weekly report of daily catch.
VA	—	<b>monthly/weekly/daily</b>	Purse seines submit weekly reports until 97% of quota, then daily reports. Monthly for all other gears until 90% of quota, then reporting every 10 days.
NC	<b>monthly (combined reports)</b>		Single trip ticket with dealer and harvester information submitted monthly. Larger dealers (>50,000 lbs of landings annually) can report electronically, updated daily.
SC	<b>monthly (combined reports)</b>		Exempt from timely reporting. Single trip ticket with dealer and harvester information.
GA	<b>monthly (combined reports)</b>		Exempt from timely reporting. Single trip ticket with dealer and harvester information.
FL	<b>monthly/weekly (combined reports)</b>		Monthly until 50% fill of quota triggers implementation of weekly.

**Table 6:** ACCSP data elements, and descriptions, for commercial harvester reporting.

<b>DATA ELEMENT</b>	<b>DESCRIPTION</b>
Form Type/Version Number	Version identification number for the ACCSP reporting form
Reporting Form Series Number	Individual number for each reporting form (ie: trip ticket number)
Trip Start Date	Date trip started
Vessel Identifier	Unique vessel ID such as US Coast Guard documentation or state registration number
Individual Fisherman Identifier	Identified unique to a fisherman
Dealer Identification	Identifier for the dealer at point of transaction
Unloading Date	Date of the landing at dealer
Trip Number	Sequential number representing the number of a trip taken in a single day by either a vessel or individual
Species	Genus and species for each species landed, sold, released, or discarded
Quantity	Amount that is landed, sold, released, or discarded
Units of Measure	Landed units
Disposition	Fate of catch
Ex-vessel Value or Price	Dollar value or price for each species that is landed or sold
County or Port Landed	Location within a state where the product was landed
State Landed	State where the product was landed or unloaded
Gear	Types(s) of gear used to catch the landed species
Quantity of Gear	Amount of gear employed
Number of Sets	Total number of sets or tows of gear during a trip
Fishing Time	Total amount of time that the gear is in the water
Days/Hours at Sea	Time from the start of the trip to the return to the dock
Number of Crew	Number of crew, including the Captain
Area Fished	NOAA Fisheries statistical area where fishing occurred
Distance From Shore	Determination of catch distance from shore
Sale Disposition	To whom catch was sold

**Table 7:** ACCSP standard measurements of gear quantity, fishing time, and sets for commercial harvester reporting.

TYPE OF GEAR	QUANTITY	FISHING TIME	# SETS
Pound nets, traps and pots	# of traps, pots, or pound nets fished	Total soak time for each pot, trap, or pound net	# of strings hauled or # of pound nets fished
Trawls	# of trawls towed	Total tow time of each trawl	# of tows
Gill Nets	Float line length for string	Total soak time	# of strings/hauls
Nests/cast nets	# of pieces of apparatus	Search time	# of hauls/throws
Hook and line	# of lines	Total soak time	n/a
Purse seines	Length of floatline	Total search time	# of sets
Hand gear	# of lines	Total soak time	n/a

**Table 8:** Number of ten fish samples from the reduction fishery landings at Reedville, VA from 2007-2016.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
# 10 fish samples	379	277	283	327	323	263	213	208	256	251

**Table 9:** Number of ten fish samples required and collected by each jurisdiction in the bait fishery in 2016. Number of samples required is based on total bait landings in that jurisdiction.

State	#10-fish samples required	#10-fish samples collected	Gear/Comments
ME	7	9	purse seine
MA	5	7	purse seine (2), cast net (5)
RI	0	5	floating fish trap
CT	0	1	gill nets
NY	2	9	seines
NJ	69	113	purse seine (100), and other gears (13)
DE	0	5	drift gill net
MD	13	19	pound net
PRFC	6	9	pound net
VA	74	82	pound net (16), gill net (64), haul seine (2)
NC	1	6	gillnet, seine
<b>Total</b>	<b>177</b>	<b>265</b>	

**Table 10:** Fishery independent surveys used in the juvenile abundance index, the northern adult index, and the southern adult index as a part of the 2015 Stock Assessment.

<b>Index</b>	<b>Survey</b>
Juvenile Abundance Index	Rhode Island Trawl Survey
	Connecticut Seine Survey
	Connecticut Thames River Survey
	Connecticut Long Island Sound Trawl Survey
	New York Peconic Bay Trawl Survey
	New York Western Long Island Sound Seine Survey
	New Jersey Ocean Trawl Survey
	New Jersey Juvenile Striped Bass Seine Survey
	Delaware Bay Juvenile 16ft Trawl Survey
	Delaware Inland Bay Juvenile Trawl Survey
	Maryland Juvenile Striped Bass Seine Survey
	Maryland Coastal Trawl Survey
	Virginia Striped Bass Seine Survey
	VIMS Juvenile Trawl Survey
	South Carolina Electrofishing Survey
Georgia Trawl Survey	
Northern Adult Index	Connecticut Long Island Sound Trawl Survey
	New Jersey Ocean Trawl Survey
	Delaware Bay Juvenile 16ft Trawl Survey
	Delaware Bay Juvenile 30ft Trawl Survey
	Chesapeake Bay Fishery-Independent Multispecies Survey
	ChesMMAP
	VIMS Juvenile Trawl Survey
Southern Adult Index	Georgia Trawl Survey
	SEAMAP Trawl Survey

**Table 11:** Total number of bycatch trips by year from 2013-2016 separated into 1,000 pound landings bins

<b>Bins (LBS)</b>	<b>2013 Trips</b>	<b>2014 Trips</b>	<b>2015 Trips</b>	<b>2016 Trips</b>	<b>Total Trips</b>	<b>% of Total Trips 2013-2016</b>
1-1000	1,875	3,673	3,163	1,450	10,161	69%
1001-2000	252	517	582	148	1,499	10%
2001-3000	148	318	316	73	855	6%
3001-4000	110	190	139	48	487	3%
4001-5000	131	206	132	48	517	4%
5001-6000	158	265	196	108	727	5%
6000+	130	109	140	33	412	3%
<b>Total</b>	<b>2,804</b>	<b>5,278</b>	<b>4,668</b>	<b>1,908</b>	<b>14,658</b>	



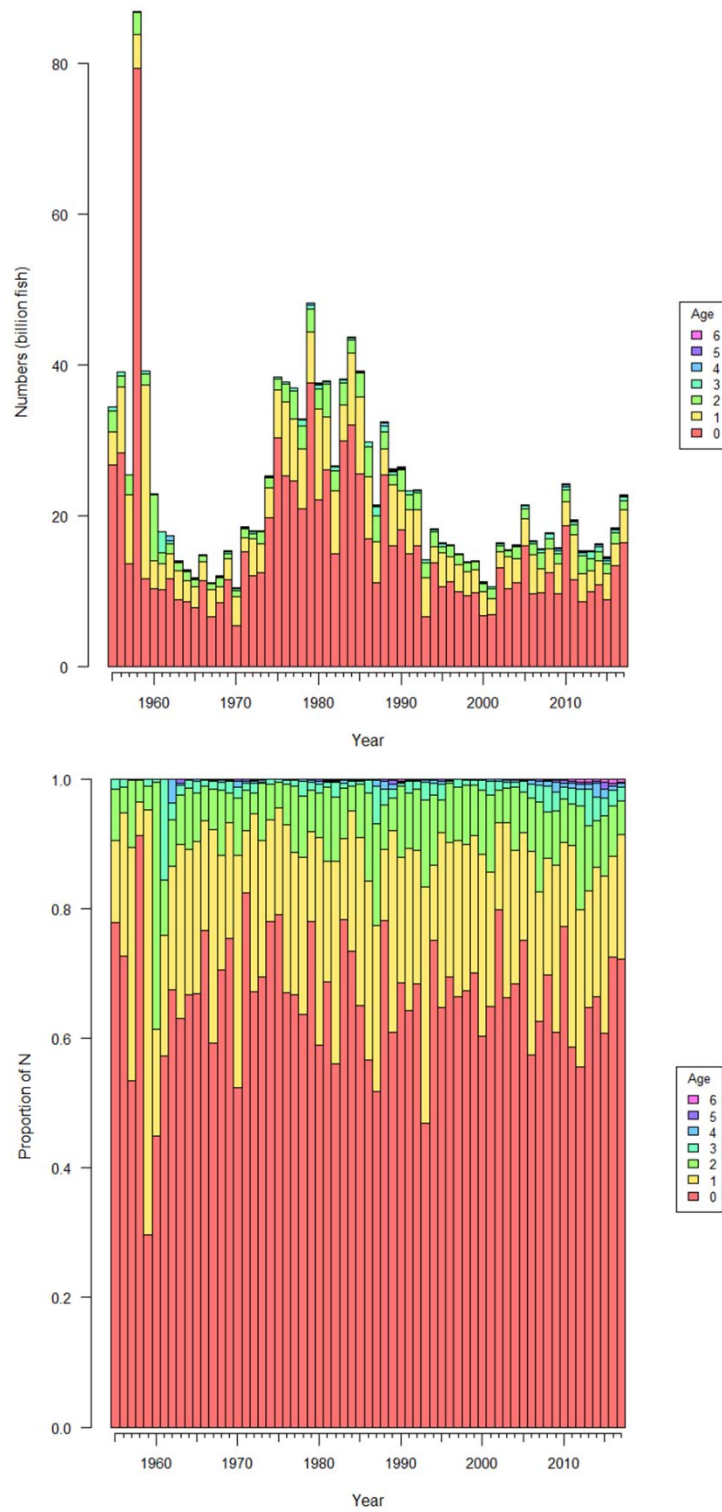
**Table 12:** Average landings under the bycatch allowance from 2013–2016 by gear type (stationary and mobile) and jurisdiction. Highlighted cells represent the gear type with the highest landings within a jurisdiction. (C) = confidential landings, and (-) = no landings. Total confidential landings are 183,747 pounds (i.e., the sum of all C’s in the table below). Note that sum of pounds and percent of total columns do not include confidential data.

State/Jurisdiction	ME	RI	CT	NY	NJ	DE	MD	PRFC	VA	FL	Sum lbs (NonConf)	% of Total
<b>Stationary Gears While Fishing</b>												
Pound net	-	47,907	-	96,176	C	-	1,974,979	688,428	112,609	-	2,920,097	61.62%
Anchored/stake gill net	-	C	913	0	79,850	23,227	19,722	1,704	966,832	C	1,092,248	23.05%
Pots	-	-	-	C	-	C	C	-	-	C	-	0.00%
Fyke nets	-	-	-	-	C	-	C	26	77	-	103	0.00%
<b>Mobile Gears While Fishing</b>												
Cast Net	-	C	-	152,669	C	-	C	-	-	150,585	303,253	6.40%
Drift Gill net	-	-	-	24,443	83,697	53,381	12,061	-	62,189	-	235,771	4.98%
Purse Seine	C	-	-	-	-	-	-	-	-	-	-	0.00%
Seines Haul/Beach	-	-	-	177,173	-	-	C	35	3,840	-	181,048	3.82%
Trawl	-	C	C	6,565	C	-	-	-	-	-	6,565	0.14%
Hook & Line	-	C	C	-	-	-	C	-	-	C	-	0.00%
<b>Sum lbs (NonConf)</b>	-	47,907	913	457,025	163,547	76,608	2,006,762	690,193	1,145,547	150,585	4,739,085	
<b>% of Total</b>	0.00%	1.01%		9.64%	3.45%	1.62%	42.34%	14.56%	24.17%	3.18%		

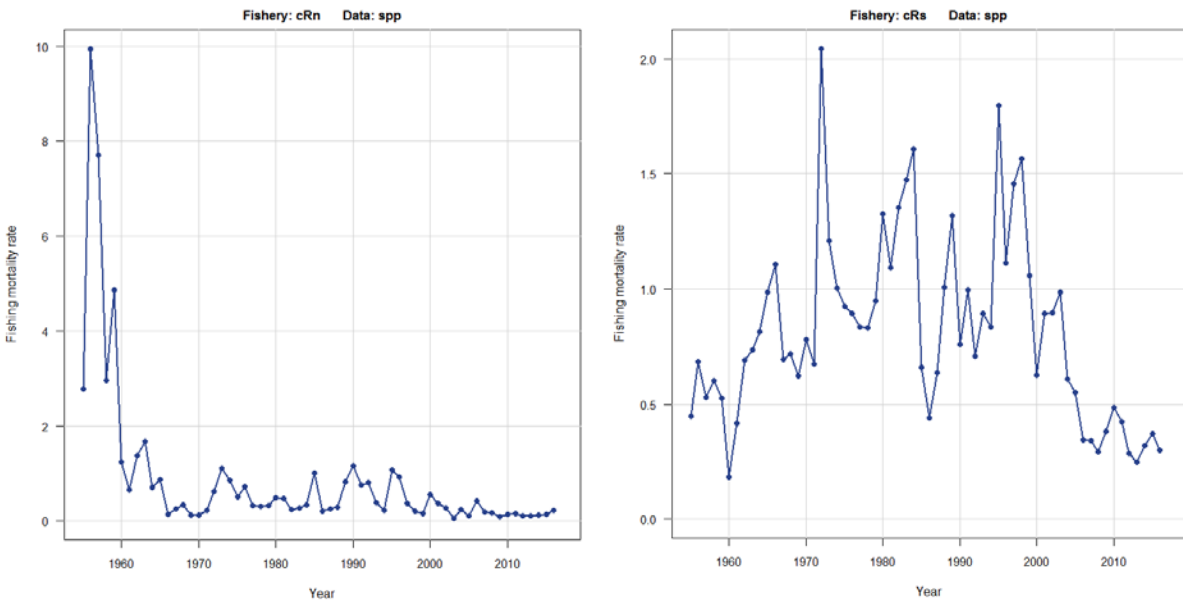
**Table 13:** Episodic event set aside for 2013-2016 and the percent used by participating states.

Year	Set Aside (lbs.)	Landed (lbs.)	% Used	Participating State	Unused Set Aside Reallocated (lbs.)
<b>2013</b>	3,765,491				
<b>2014</b>	3,765,491	295,000	8%	RI	3,470,491
<b>2015</b>	4,142,040	1,883,292	45%	RI	2,258,748
<b>2016</b>	4,142,040	3,810,145	92%	ME, RI, NY	331,895

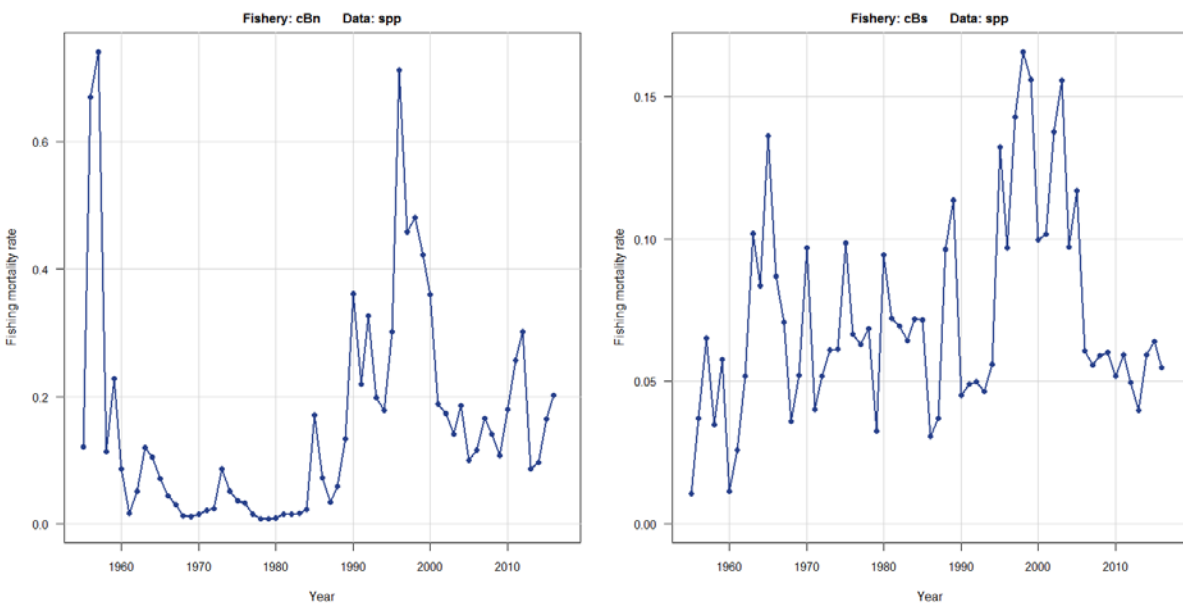
## 10.0 FIGURES



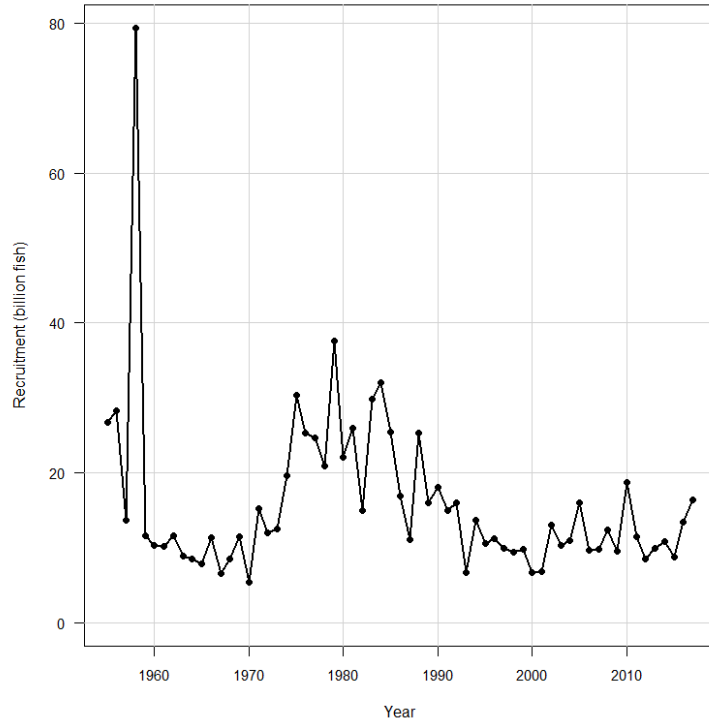
**Figure 1.** Numbers at age (upper panel) and proportion of numbers at age (lower panel) estimated from the base run of the BAM for ages 0-6+ during the time period 1955-2016. (Source: 2017 Stock Assessment)



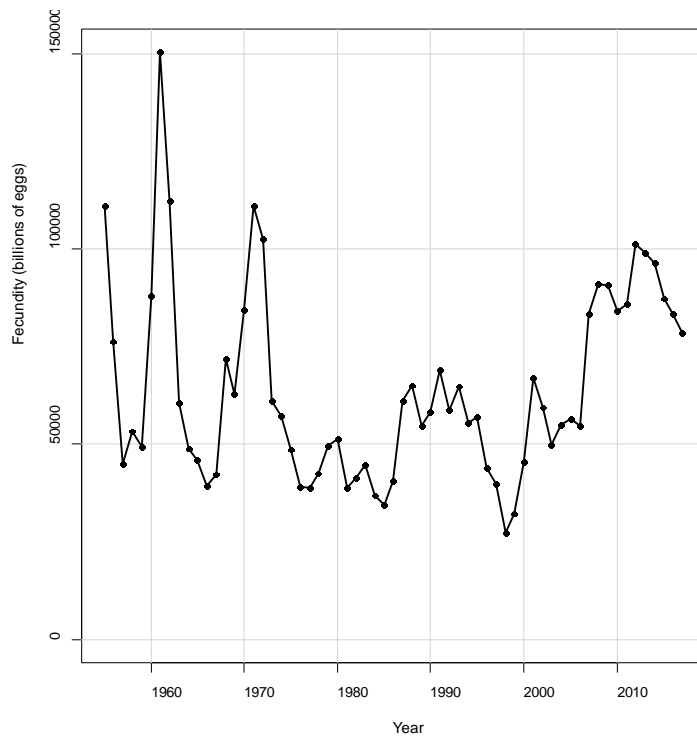
**Figure 2.** Fishing mortality rate for the northern commercial reduction fishery (left) and southern commercial reduction fishery (right) from 1955- 2016. The northern region is defined as waters north of Machipongo Inlet, VA and the southern region is comprised of waters south of Machipongo Inlet, VA. (Source: 2017 Stock Assessment)



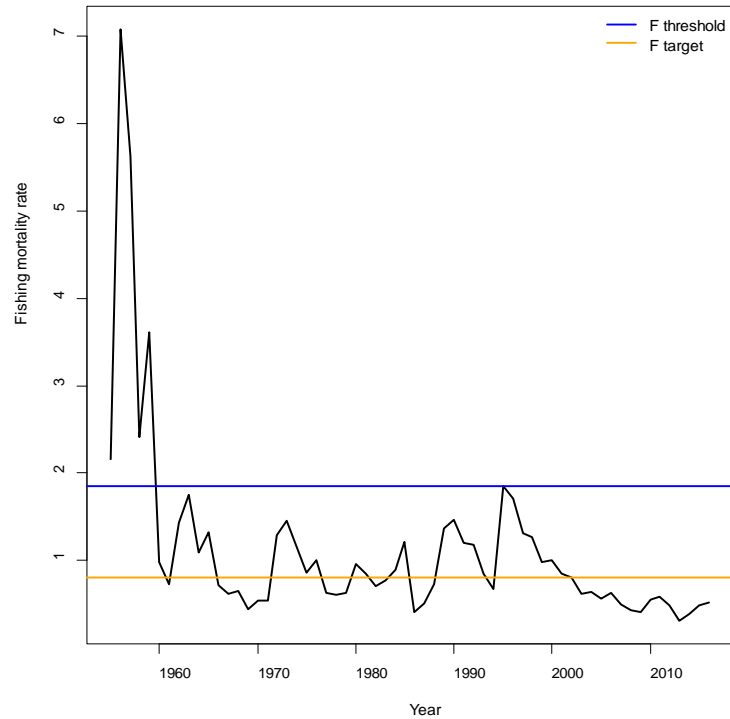
**Figure 3.** Fishing mortality rate for the northern commercial bait fishery (left) and the southern commercial bait fishery (right) from 1955-2016. The northern region is defined as waters north of Machipongo Inlet, VA and the southern region is comprised of waters south of Machipongo Inlet, VA. (Source: 2017 Stock Assessment)



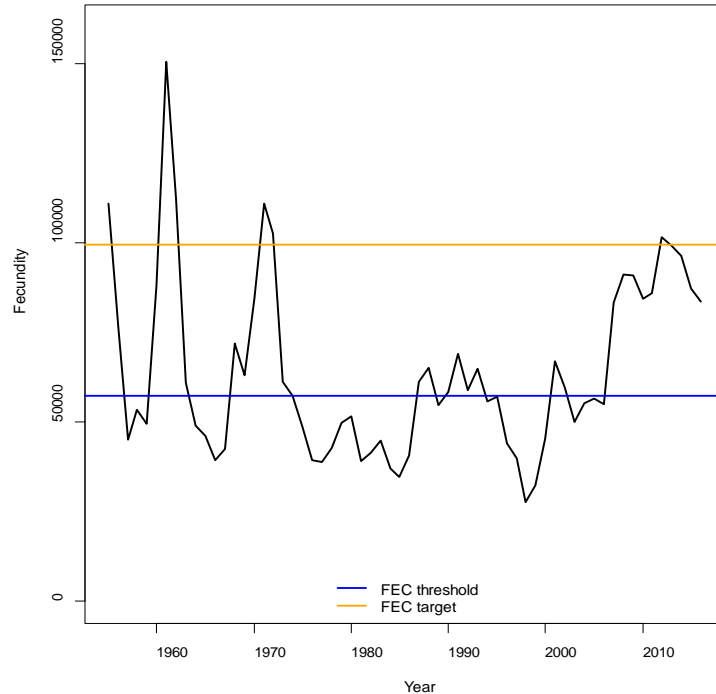
**Figure 4.** Number of recruits in billions of fish predicted from the base run of BAM for 1955-2016. (Source: 2017 Stock Assessment)



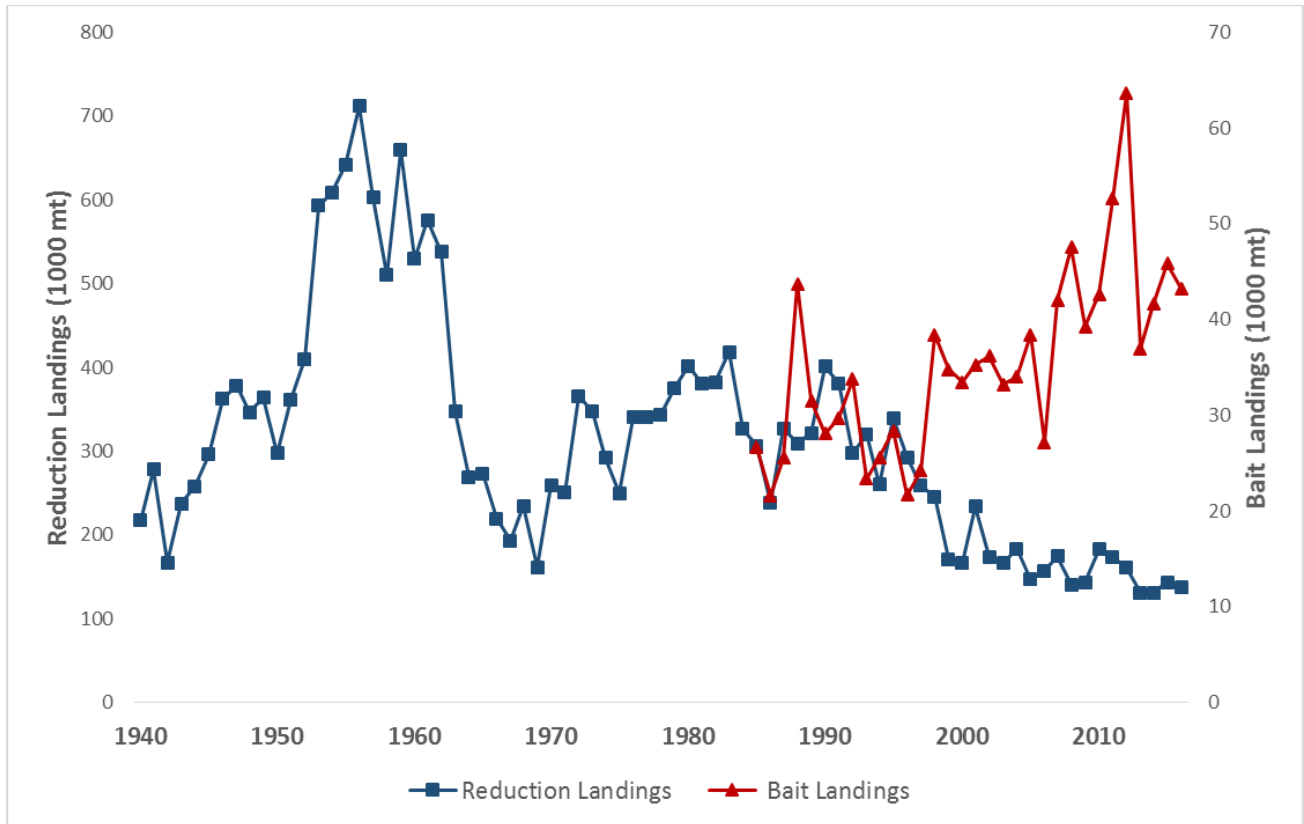
**Figure 5.** Fecundity in billions of eggs over time, 1955-2017, with the last year being a projection based on 2016 mortality. (Source: 2017 Stock Assessment)



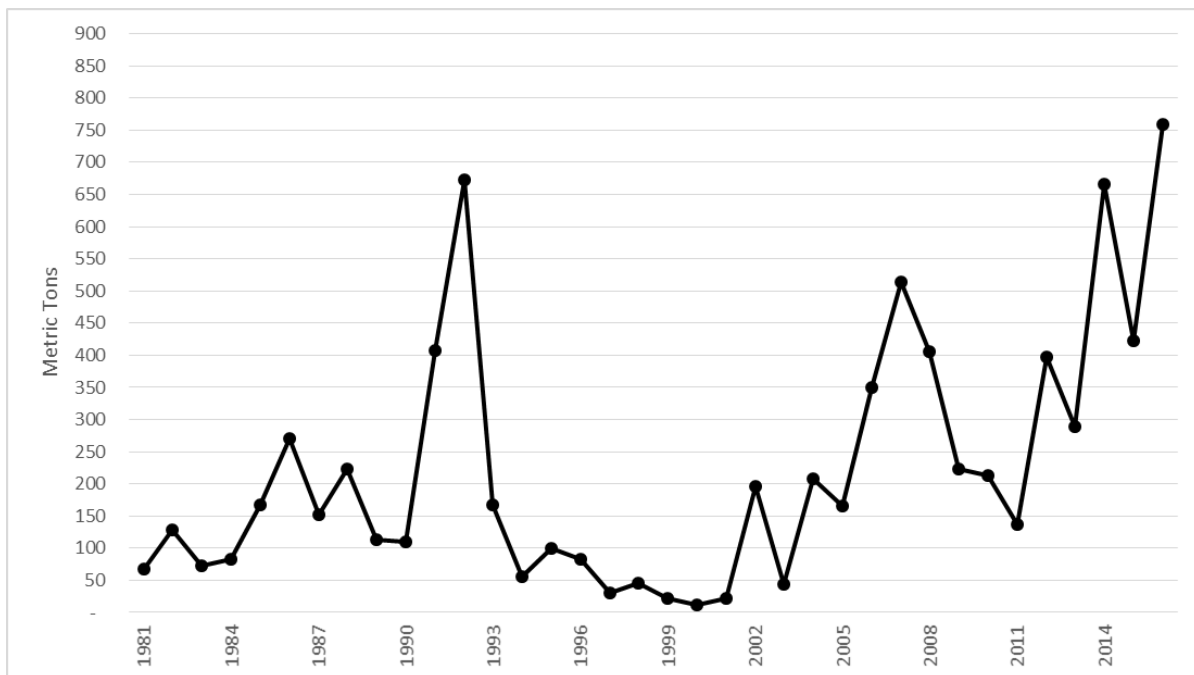
**Figure 6:** Atlantic menhaden fishing mortality (ages 2-4) from 1955-2016. The yellow line is the target ( $F_{36\%}$ ) and the blue line is the threshold ( $F_{21\%}$ ). Results of this figure show that overfishing is not occurring as fishing mortality is below the target. (Source: 2017 Stock Assessment)



**Figure 7:** Atlantic menhaden fecundity (in billions of eggs) from 1955 -2016. The yellow line is the target ( $FEC_{36\%}$ ) and the blue line is the threshold ( $FEC_{21\%}$ ). Results of this figure show the stock is not overfished as the fecundity is well above the threshold. (Source: 2017 Stock Assessment)



**Figure 8:** Landings from the reduction purse seine fishery (1940–2016) and bait fishery (1985–2016) for Atlantic menhaden. Note there are two different scales on the y-axes.



**Figure 9:** Recreational harvest of Atlantic menhaden from 1981–2016. (Source: MRIP).

# Appendix 1

## NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

### Division of Marine Resources

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### New York Menhaden Landings Recalibration

Historically, New York supported a large and active Atlantic menhaden processing fishery. The importance of this fishery diminished during the early to mid-1900s and the last processing plant ceased operations in 1969. From 1950-1969, menhaden harvest in New York averaged over 70 million pounds a year. From 1970 to present the menhaden fishery in New York has primarily been for local bait.

Many permit types in New York allow for the harvest of menhaden, although the only permit type requiring mandatory reporting of menhaden landings prior to 2009 was the menhaden purse seine license. New York implemented mandatory reporting on state trip reports for all permit holders between 2009 and 2011. However, compliance monitoring was not performed until 2013 due to staffing and funding constraints. In addition, discussions with permit holders post compliance monitoring indicated that many were unaware menhaden bait harvest needed to be reported. Thus, the validity of New York's menhaden landings history is of concern due to the significant under reporting of landings prior to 2013.

A previous effort to establish a more accurate landings history in New York occurred in 2013. Letters were sent to permit holders eligible to harvest menhaden between 2009 and 2012 requesting verifiable proof of landings during that time. Acceptable proof of landings included dated receipts, log book records, or trip reports that were not submitted to the state. Only five people were able to provide verifiable landings. While this process helped collect some of the missing information in our landings history, it still left New York with historical harvest data that does not represent the totality of our menhaden fishery during that time.

The current allocation system employed in Amendment 2 divides the TAC to each state/jurisdiction based on average landings between 2009 and 2011. This provides New York 0.055% of the TAC. The current allocation options proposed in the Public Information Document for Amendment 3 cover the time period during which New York's menhaden landings history is incomplete (1985-2012) and when our landings have been constrained by quotas and harvest limits (2013-2016) implemented in Amendment 2. The use of this information to set future quotas will continue to negatively impact New York menhaden fishers by setting quota limits well below true historical harvest levels in New York.

In order to provide a better estimate of our landings history, we compared landings and effort in the years prior to our compliance program (2009-2012) to post initiation of the program (2013-2016) (Table 1). The average annual menhaden reported landings were 315,610 lbs in 2009 - 2012, while average annual reported landings were 1,230,027 lbs in 2013 - 2016. The average yearly number of reported trips taken to harvest menhaden was 162 in 2009-2012, and 912 in 2013-2016. These values were used to determine the amount that reported landings and effort increased after compliance measures were in place.

Average Annual Landings		Average Annual Number of Trips	
2009-2012	315,610	2009-2012	162
2013-2016	1,230,027	2013-2016	912
Increase	2.90	Increase	4.62

Table 1. Average annual landings and effort pre (2009-2012) and post (2013-2016) initiation of New York's compliance program.

# Appendix 1

It was then assumed that during the years in which reporting was poor, prior to the beginning of our compliance program, landings were severely underreported. The landings multiplier (2.9) is assumed to be a low estimate of how much higher New York's landings were in the past, given that our landings in 2013-2016 occurred under Amendment 2 quotas/trip limits. In the same way, during 1985-2012 when there were no restrictions on menhaden harvest, it is probable that effort was at least 462% higher than reported based upon reporting levels from 2013-2016. For this reason, the effort multiplier (4.62) serves as a higher estimate of where New York's landings may have been during this time period. We present three time series of recalibrated landings in New York from 1985-2012; a low adjusted estimate (2.9 times our current landings), a higher adjusted estimate (4.62 times our current landings), and an average of the two (3.76 times our current landings), in order to account for the unreported landings during this time period (Table 2). In all three cases, these multipliers are still confounded by the limitations imposed by Amendment 2 and may represent underestimates.

	NY Landings	Adjusted Landings (Low-2.9)	Adjusted Landings (Higher-4.62)	Adjusted Landings (Average-3.76)
1985	901,800	2,612,786	4,167,178	3,389,982
1986	399,650	1,157,906	1,846,765	1,502,335
1987	206,795	599,147	955,590	777,369
1988	504,100	1,460,529	2,329,424	1,894,976
1989	449,100	1,301,178	2,075,271	1,688,224
1990	649,710	1,882,405	3,002,281	2,442,343
1991	650,150	1,883,680	3,004,314	2,443,997
1992	1,131,701	3,278,878	5,229,540	4,254,209
1993	1,048,993	3,039,248	4,847,350	3,943,299
1994	961,474	2,785,679	4,442,928	3,614,304
1995	1,087,978	3,152,199	5,027,498	4,089,848
1996	11,135	32,261	51,454	41,858
1997	553,953	1,604,968	2,559,792	2,082,380
1998	430,084	1,246,083	1,987,399	1,616,741
1999	242,886	703,714	1,122,365	913,040
2000	565,800	1,639,293	2,614,537	2,126,915
2001	576,426	1,670,079	2,663,639	2,166,859
2002	444,739	1,288,543	2,055,119	1,671,831
2003	384,875	1,115,099	1,778,490	1,446,794
2004	543,481	1,574,628	2,511,401	2,043,015
2005	871,081	2,523,783	4,025,226	3,274,505
2006	811,934	2,352,417	3,751,911	3,052,164
2007	483,557	1,401,010	2,234,495	1,817,753
2008	410,121	1,188,244	1,895,151	1,541,697
2009	330,496	957,546	1,527,207	1,242,377
2010	394,556	1,143,147	1,823,226	1,483,186
2011	279,117	808,686	1,289,787	1,049,236
2012	258,271	748,289	1,193,459	970,874
2013	1,187,525	1,187,525	1,187,525	1,187,525
2014	825,549	825,549	825,549	825,549
2015	1,467,861	1,467,861	1,467,861	1,467,861
2016	1,439,173	1,439,173	1,439,173	1,439,173
Average	640,752	1,564,735	2,404,153	1,984,444

Table 2. Current landings in New York and the values adjusted by the low, higher, and average multipliers.



# Appendix 1

In table 3, we show what our initial Amendment 2 quota would have been under each of the adjusted landings scenarios. In all cases, the quota New York would have received is more in line with our average total harvest of 1,230,027 pounds between 2013 and 2016. This is especially true for the higher and average scenarios, where our quota would have been 1,237,392 pounds, and 1,006,613 pounds respectively.

	Low Adjusted Landings	Higher Adjusted Landings	Average Adjusted Landings
2009-2011 Average Landings	969,793	1,546,740	1,258,267
20% Reduction (Amendment 2)	193,959	309,348	251,653
Quota	775,834	1,237,392	1,006,613

Table 3. New York's Initial Amendment 2 quota based on the low, higher, and average adjusted landings.

We believe that these scenarios provide a more realistic representation of the historical menhaden landings in New York, given the limitations of historical reporting.

# Appendix 1

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### Answers to PDT Questions- NY Menhaden Landings Recalibration

1. The analysis notes that prior to 2009, purse seine landings were reported to the state. Were purse seine landings included in the re-calibration of NY's menhaden landings? If they were, the PDT recommends that the re-calibration only be done on non-purse seine landings.

Although there was a law in place requiring purse seine vessels to report menhaden catches to the state, there was no enforcement of this requirement prior to 2013 as was the case for all other licenses eligible to harvest menhaden. There was a single record of a purse seine catch that was reported to NOAA fisheries in 2003. This was included in the original analysis but has been removed prior to running the analysis a second time.

	Adjusted Landings (Low-2.9)	Adjusted Landings (Higher-4.62)	Adjusted Landings (Average-3.76)
1985	2,612,786	4,167,178	3,389,982
1986	1,157,906	1,846,765	1,502,335
1987	599,147	955,590	777,369
1988	1,460,529	2,329,424	1,894,976
1989	1,301,178	2,075,271	1,688,224
1990	1,882,405	3,002,281	2,442,343
1991	1,883,680	3,004,314	2,443,997
1992	3,278,878	5,229,540	4,254,209
1993	3,039,248	4,847,350	3,943,299
1994	2,785,679	4,442,928	3,614,304
1995	3,152,199	5,027,498	4,089,848
1996	32,261	51,454	41,858
1997	1,604,968	2,559,792	2,082,380
1998	1,246,083	1,987,399	1,616,741
1999	703,714	1,122,365	913,040
2000	1,639,293	2,614,537	2,126,915
2001	1,670,079	2,663,639	2,166,859
2002	1,288,543	2,055,119	1,671,831
2003	939,018	1,442,444	1,190,731
2004	1,574,628	2,511,401	2,043,015
2005	2,523,783	4,025,226	3,274,505



# Appendix 1

2006	2,352,417	3,751,911	3,052,164
2007	1,401,010	2,234,495	1,817,753
2008	1,188,244	1,895,151	1,541,697
2009	957,546	1,527,207	1,242,377
2010	1,143,147	1,823,226	1,483,186
2011	808,686	1,289,787	1,049,236
2012	748,289	1,193,459	970,874
2013	1,187,525	1,187,525	1,187,525
2014	825,549	825,549	825,549
2015	1,467,861	1,467,861	1,467,861
2016	1,439,173	1,439,173	1,439,173
Average	1,559,233	2,393,652	1,976,442

2. What percentage of NY's landings are by purse seines?

In all years from 1985-2016, except for 2003, purse seine landings account for 0% of the menhaden landings in New York. In 2003, they accounted for 24% of the total landings.

3. For the 2009-2012 and the 2013-2016 timeframes, can you provide a breakdown of average landings by gear type and average number of participants in the fishery. The PDT is interested in seeing what other changes might of occurred in the NY menhaden fishery between the two timeframes.

The table below includes average landings by gear type in the two timeframes. Confidential landings are displayed with a "C". The total value of all confidential landings is 14,380 lbs.

Year	Cast Nets	Fixed Nets	Gill Nets	Hook and Line	Pots and Traps	Seines	Trawls	Not Coded
2009-2012	84,302	C	220,136	C		C	1,293	900
2013-2016	348,155	272,073	196,286	C	C	405,049	5,230	3

New York has a number of different permits that allow a fisher to harvest menhaden. This makes it difficult to determine the exact number of participants in the fishery over the years. It is further complicated by the fact that reporting was poor prior to 2013. In the table below we display the average number of permit holders that could have harvested menhaden and the average number in reporting compliance during the two timeframes.

Year	Average # of Permit Holders	Average % in Compliance
2009-2012	1144	39.4
2013-2016	1130	85.2

# Draft White Paper: Management, Policy and Science Strategies for Adapting Fisheries Management to Changes in Species Abundance and Distribution Resulting from Climate Change

January 2018

Climate change is already having impacts on the fishery resources the Commission manages. As average temperatures rise, mobile marine species are moving towards the poles and/or deeper water to stay cool. Shifts in the distributions and productivity of stocks can cause ecological and economic disruptions, such as predators become separated from their prey impacting food webs, or fisherman no longer catching a species their livelihood relies on. In the face of climatic shifts, change is likely to be the only constant. Accordingly, managers will need to learn how to respond to and manage these changes. Managers will likely need to focus on sustaining ecological functions, rather than historical abundances. As conditions change, current conservation goals and management objectives may no longer be feasible. Successful climate adaptation will depend not only on adjusting management strategies, but also in reevaluating and revising, as necessary, the underlying conservation goals and objectives of fishery management plans.

The Climate Change Working Group was tasked with developing science, policy and management strategies to assist the Commission with adapting its management to changes in species abundance and distribution resulting from climate change impacts. Work group discussions resulted in five main outputs: A) a proposed approach for working through climate related fishery management issues; B) a list of management options for stocks at persistent low biomass; C) a list of management options for stocks with changing spatial distributions; D) a recommendation to consider inclusion of a climate change terms of reference for stock assessments; and E) a recommendation to create a list of climate change data available for inclusion in analyses. For the first two outputs, the Work Group listed options that could be considered when evidence suggests a changing environment could be impacting species' biomass levels or distributions. However, none of the options have been analyzed to clarify their pros and cons, and there are options included that may not be consistent with current federal law or the fisheries management goals identified in the Interstate Fisheries Management Charter. The lists are thus intended to provide a starting point for managers as they discuss the management options.

## A. A Stepwise Approach

Carrying out effective management strategies in the face of climate change can seem complex. By clarifying a process and demonstrating how the various parts of this process fit together, implementing adaptive management can be less daunting. A generalized framework can break the process down into discrete steps designed to help managers understand how the pieces of the process fit together, and how to recognize when various methods and approaches may be appropriate. *The following stepwise approach is detailed in a resource document from the National Wildlife Federation: Climate Smart Conservation* was modified slightly for marine resource management.

**Step 1. Define planning purpose and scope.** This includes: articulating a purpose; clarifying existing management goals; identifying management targets; specifying a scope and time frame; engaging key stakeholders; and determining resource needs and availability.

**Step 2. Assess climate impacts and vulnerabilities.** Understanding climate vulnerabilities is crucial for designing effective adaptive management strategies, and the specific components of vulnerability—exposure, sensitivity, and adaptive capacity—can provide a useful framework for linking actions to impacts.

**Step 3. Review/revise management goals and objectives.** Because goals serve as the basis for subsequent strategies and actions, they should be climate-informed and forward looking. Reevaluation of goals and objectives may either validate their continued relevance, or indicate a need for refinement or modification.

**Step 4. Identify possible adaptive management options.** What are possible approaches for reducing key climate-related vulnerabilities or taking advantage of newly emerging opportunities? At this stage, a broad array of alternative strategies and actions should be identified, with particular attention to creative thinking in crafting possible management actions.

**Step 5. Evaluate and select adaptive management options.** The array of possible adaptation options can now be evaluated to determine which are likely to be most effective from a biological/ecological perspective, and most feasible from implementation, social and economic perspectives.

**Step 6. Implement adaptive management options.** Successfully implementing adaptation requires individual leadership as well as institutional commitment and resources, and often depends on engaging diverse partners early on, and emphasizing benefits to multiple sectors of society.

**Step 7. Track action effectiveness and ecological responses.** Monitoring helps provide context for understanding climate-related impacts and vulnerabilities and for informing adaptive management. Monitoring approaches should be carefully designed to ensure they are capable of guiding needed adjustments in management strategies.

## **B. Managements Options for Stocks at Persistent Low Biomass**

There are two main questions that should be addressed for stocks with persistent low biomass: 1) what, if any, is an appropriate harvest level, and 2) how many resources should be committed to continue monitoring and managing the species.

### **Approaches**

1. Status Quo: Following the current status quo addresses the first question (appropriate harvest level) but does not address questions related to continuation of monitoring and management. The current harvest strategies include allowing landings that target a rebuilding  $F$  with a biomass target based on historic assessment information with the assumption that the stock will eventually respond to a low  $F$ . If biomass continues to decline there are two harvest options:
  - a. Continue the above scenario with further reductions in  $F$
  - b. Put a harvest moratorium in place for a period of time based on the life history of the species

2. Evidence of a Change in Productivity: As with the status quo option, the monitoring and management would be retained at historical levels. The harvest level would be adjusted as reference points are redefined based on evidence the stock will likely not recover to previous biomass targets because of a change in productivity from environmental causes. The reference points will target a sustainable yield from a biomass that is much lower than previously targeted. The actual yield will be much reduced from historic levels, leading to a very small fishery with presumably much fewer participants. This approach may also entail a rebuilding period. The rebuilding period would be reflective of the new reference points based on an expected lowered productivity level of the stock.
3. Evidence the stock has a low to no productivity; recovery to sustainable levels is highly unlikely
  - a. Management: A permanent moratorium is put in place or harvest continues until it becomes economically unfeasible. Decision between these options could be based on confidence in prediction of no recovery and consideration of genetic diversity that is often high at the tail end of a species range (Nowack et al., 2013). It may be more beneficial to protect the remaining genetically diverse stock, or it may be more beneficial to allow economic harvest of the species.
  - b. Monitoring: Determine what level of monitoring would occur: Increased, current, or reduced
4. Management and monitoring cease and harvest does not continue because it becomes economically unfeasible.

### **Science requirements**

Each of the options places great demands on the science. Questions to be answered before choosing among the options would include:

1. What is the mechanism of decline/loss of productivity?
2. What evidence is there that the stock will likely not come back to its former productivity?
3. How is sustainable yield determined and at what level of biomass will a harvest be permitted?
4. Are there ecological/genetic considerations to be considered before taking any of these approaches to manage a stock or population?
5. What are the economic and ecological tradeoffs of continuing to harvest at lower levels vs. a moratorium?

### **C. Management Options for Stocks with Changing Spatial Distributions:**

1. Maintain current state-by-state or regional allocations.
  - Quota Sharing by fishery or within fishery: Under state-by-state management without quota reallocation it is necessary to allow for transfer of quota between states in order to have a mechanism to respond to changing distributions of stocks. But under regional or coastwide quota management; sharing of quota becomes less important when responding to distributional changes in stocks; although sharing between two regions may still be needed.
  - Add a minimum allocation for states with low quotas or states that are on the edge of stocks that are moving north or south

- Include an episodic events approach (quota set aside) for species that are moving northward
  - A certain percentage of the coastwide quota would be set aside for use by specified states/regions. The set aside is designed to allow for harvest of fish that episodically move in and out of a region
- 2. Maintain regional or state-by-state allocations and develop a Commission policy to revisit allocation based on identified triggers (see [NMFS Allocation Policy](#)).
  - Triggers could be based on time, an indicator of change, or a threshold of public comment.
    - a) For time based triggers, triggers could be a set number of years or could be related to the life history of the species. Allocation reviews may not automatically result in a re-allocation, but they would require the Board to “revisit” the state or regional allocations periodically and decide whether to initiate management action to change allocation or vote to reaffirm current allocation. Alternatively, the board could include a provision in the FMP where the state or regional allocations would “sunset” on a prescribed date so the Board must initiate management action to either reinstitute current allocation or modify allocation.
  - Options for who makes the final decision regarding reallocation could be internal or external to the Commission:
    - a) Species management boards know the fishery the best but could be open to strong political pressure from impacted states.
    - b) Australia has used independent panels to determine allocations as they can take the pressure off managers and allow fairer compromises. For more information, see section 9.2 in [Morrison and Scott 2014](#).
  - Potential options for adjusting allocations:
    - a) Use distribution and abundance data from certain fisheries independent surveys that cover extended geographical areas to help determine the state or regional quota allocation percentages (e.g NEAMAP surveys; NEFSC bottom trawl survey, etc.)
    - b) Use a combination of historical allocations and current distribution that adjusts through time: 75% historical allocations years 1-2, 65% historical allocations years 3-4, etc.
    - c) Use Management Strategy Evaluation (MSE) to determine allocation using 4 evaluators:
      - Catch distribution
      - Recruitment
      - Productivity
      - Total yield across years
    - d) Use it or lose it provisions—revisit a state’s quota after X number of years of not utilizing quota.
- 3. Change management away from state-by-state allocations. Ideas include:

- Change management from species focus to area focus. Allow for area allocations where industry can be permitted for multiple species at once where they can move from stock to stock as they rise and fall
  - For example- an area could be GOM; species could be lobster, herring, groundfish, menhaden, black sea bass, dogfish, others?
  - Allocations would be set based on the health of the ecosystem overall. Every 1-3 years do assessments on an area to determine what level of harvest is feasible for stocks. Look at more than just species assessment to determine allocations. Also look at ocean environment to help make predictions of the direction of stock levels.
  - This would be a significant change to how we manage stocks
- Allocation by timeframe (e.g., calendar quarters)
  - Quotas could be allocated by seasons and open to all fishermen when the season opened (e.g., 4 seasons: spring, summer, fall, winter each with a specified percentage of the quota each season. All fishermen would have access to the quota each season).
  - Seasonal quota could be further broken out by area (e.g., the summer quota could be divided into a northern and southern allocation).

#### **D. Including a Climate Change Terms of Reference**

Work group discussions resulted in a recommendation that stock assessment committees consider including a Terms of Reference (TOR) to evaluate whether climate change impacts on the species of interest are evident. Climate change recommendations were reviewed by the Commission's Assessment Science Committee (ASC). The ASC supported a process where assessment committees consider including new climate TORs when starting new stock assessments. If a TC/SAS thinks there may be climate impacts on a stock and related analyses are possible, a climate TOR is to be added. If a TC/SAS does not think there are climate impacts, a TOR does not need to be added. TCs will then have the option to include a brief assessment report section describing why climate impact analyses on a stock were not conducted.

The following are options related to climate for Technical Committees to consider when devising the full set of TORs at the outset of a stock assessment.

- Describe the thermal habitat and its influence on the distribution and abundance of Species X, and attempt to integrate the results into the stock assessment.
- Consider the consequences of environmental factors on the estimates of abundance or relative indices derived from surveys.
- Characterize oceanographic and habitat data as it pertains to Species X distribution and availability. If possible, integrate the results into the stock assessment.



- Evaluate new information on life history such as growth rates, size at maturation, natural mortality rate, and migrations. Explore possible impacts of environmental change on life history characteristics.
- Present the survey data available for use in the assessment, evaluate the utility of the age-length key for use in stock assessment, and explore standardization of fishery-independent indices. Characterize the uncertainty and any bias in these sources of data, including exploring environmentally driven changes in availability and related changes in population size structure. Explore the spatial distribution of the stock over time, and whether there are consistent distributional shifts.
- Provide best estimate of population parameters (fishing mortality, biomass, and abundance) through assessment models. Evaluate model performance and stability through sensitivity analyses and retrospective analysis, including variation in life history parameters. Include consideration of environmental effects where possible. Discuss the effects of data strengths and weaknesses on model results and performance.
- Update or redefine biological reference points (BRPs; point estimates or proxies for  $B_{MSY}$ ,  $SSB_{MSY}$ ,  $F_{MSY}$ ,  $MSY$ ). Evaluate stock status based on BRPs. If possible, develop alternative  $MSY$ -based reference points or proxies that may account for changing productivity regimes.

#### **E. Climate Change Data Availability and Gap Analysis**

Climate change is affecting a number of aspects of the environment which may affect abundance, distribution, and productivity of various species. Besides warming waters, changes to other aspects of the marine environment (such as salinity, pH and currents – Table 1) may also be occurring. To assist the assessment committees in this work, the Climate Change Working Group recommended the creation of a coast wide database summarizing the types of climate related data various state, federal, and university programs collect. The database would not store the actual data, but provide metadata on the programs (i.e., the database would contain a summary of the types of environmental data collected, temporal and spatial aspects of the data, sample design, and contact information). The database would be a central repository of information for the species assessment committees to identify and request available climate data appropriate for the species and area of interest. The decision to house the metadata and contact information and not the actual environmental data was to avoid:

- Needing to annually update the data
- duplication of datasets
- adapting the data inappropriately, and
- ensuring the most recent information is used

Development of the database will be a collaborative coast wide effort to ensure all known programs that collect environmental data are included. In addition to the numerous ocean observing buoys, data

portals, and state and federal monitoring programs, the database should include power plant monitoring data and smaller-scale programs conducted by counties, towns, and universities for a variety of purposes. The ASC noted that some data sources may need to be converted to usable format.

Two levels of gap analysis will be conducted after development of the environmental metadata database:

1. Review to ensure all known programs that collect environmental data are included
  - a. Verify that all appropriate information is included
    - i. The review should be conducted by each state and federal agency to assure completeness coordinated by the ASC and reviewed by the MSC.
2. Review the types of environmental data collected and temporal and spatial scale of the information
  - a. Determine if there are temporal and/or spatial gaps in data necessary to investigate the effects of climate change on species
    - i. Task species TC and SASC for review
  - b. Determine relative importance of filling individual data gaps
  - c. Prioritize data gap filling and identify strategies to address the important gaps

**Table 1. Climate Data Types**

- Temperature
  - Annual, seasonal, daily
  - days above threshold (need daily data)
  - timing of ice melt
- Salinity
  - Temporal/spatial changes
  - Temporal/spatial changes of estuarine salt wedge
- pH (ocean acidity)
- Precipitation
  - River currents
  - Temporal/spatial salinity changes
- Wind
  - Changes to local wind patterns
  - Frequency of storm events – spatial and temporal patterns
- Currents
  - Strength and location of local currents
  - Location of basin wide currents (i.e. – Gulf Stream, Labrador currents)
- Global climate measures

- North Atlantic Oscillation (NAO)
- Atlantic Multidecadal Oscillation (AMO)

### **Resources to Assess How Species and Environments are Being Impacted by Climate**

The following are potential resources managers could use to determine if a stock has reached a point that necessitates change in a fisheries management strategy to adapt to climate change impacts

- [Northeast Fish and Shellfish Climate Vulnerability](#) Assessment developed by NOAA
- [Ecosystem status reports](#)/Ecosystem indicators- large scale requires significant resources would need to partner with NOAA
- [Ocean Adapt](#)- analysis of changing distributions by NMFS and Rutgers
- [NOAA National Center for Environmental Information](#) – hosts and provides public access to archives of climate data
- Stock predictions
  - Climate predictions
  - Species distributions
  - Species abundance (climate velocity)
- Citizen Science—create venue for watermen to report changes they are seeing on the water as an advanced warning to managers.
- Triggers defined by fishermen: seek public input on triggers for when management would adapt due to changes in the resource from climate change

### References:

Pauls, S., C. Nowak, M. Balint, and M. Pfenninger. 2013. The impact of global climate change on genetic diversity within populations and species. *Molecular Ecology* 22:925-946.

## Background

The Atlantic States Marine Fisheries Commission's (Commission) Habitat Committee (Committee), a branch of the Interstate Fisheries Management Program, was developed to identify, enhance, and cooperatively manage vital fish habitat for conservation, restoration, and protection, as well as support the cooperative management of the Commission and jointly managed species.

In 2016 the Committee identified each state's ongoing practices that address climate change impacts, with a focus on state coastal regulatory planning (Appendix A).

This document builds upon the information gathered in 2016, adding new information since the report was produced, as well as identifying gaps in climate change initiatives among states and providing recommendations for the future. It addresses Strategy 4.6, Task 4.6.2 of the [2017 Action Plan](#):

*4.6 Engage in state and federal agency efforts to ensure climate change response strategies are included in habitat conservation efforts.*

*4.6.2 Identify gaps in state coastal regulatory planning regarding climate change impacts and make recommendations to increase resiliency.*

## Summary of State Initiatives that Address Climate Change

From the information gathered in 2016, state initiatives were grouped into eight different categories:

1. Established a working group or legislation to reduce carbon output
2. Established a working group or legislation to respond to climate change threats
3. Produced reports on climate change
4. Assesses and monitors the effects of climate change
5. Has mechanisms in place for collaboration among agencies and other organizations
6. Addresses climate change in planning documents
7. Has responded to climate change on the ground
8. Includes climate change in outreach efforts.

Each state\* has implemented 1 – 8 of the initiative categories listed above. New Hampshire, New York, New Jersey, and Virginia have practices in place that meet all eight categories. A table of each state's practices can be found in Appendix II (also Figure 1). All states address climate change in their planning documents (Initiative 6), at a minimum in their 2015 State Wildlife Action Plans. All but one are also assessing and monitoring the effects of climate change (Initiative 4). This includes habitat distribution and condition, sea level rise, changes in species distribution and abundance, and more. Twelve out of 14 states have produced reports on climate change (Initiative 3), some of which are regularly updated.

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\* Except Delaware – data not available.

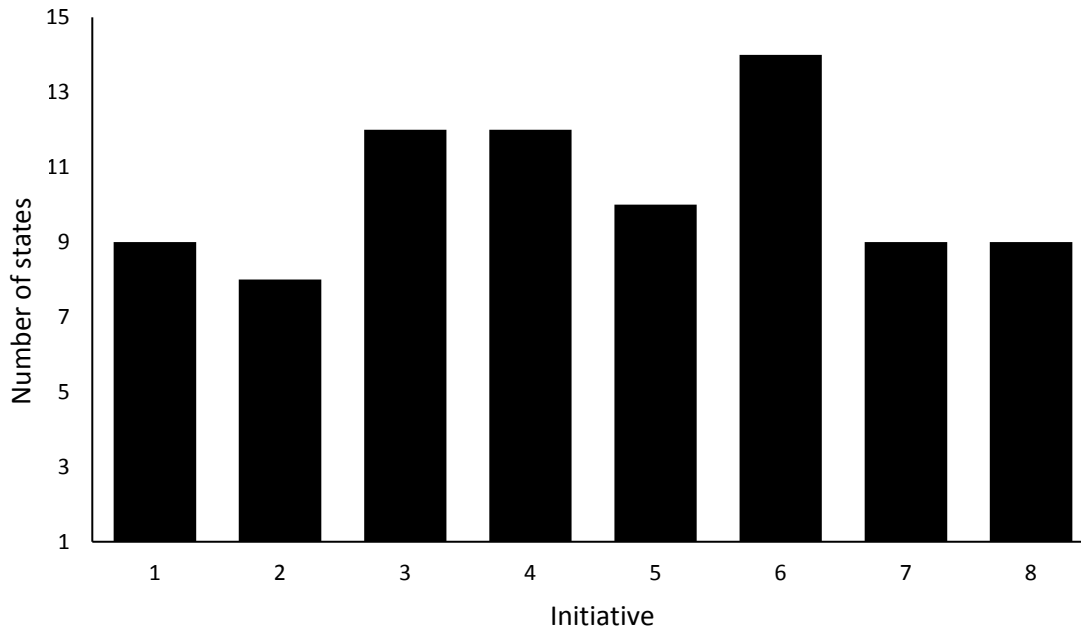


Figure 1. Number of Atlantic coast states carrying out each initiative category. List of categories can be found on page 1.

There is a lot of opportunity regarding initiatives 1, 2, 5, 7, and 8. Only nine of the states have responded to climate change on the ground. Examples of on-the-ground responses that have taken place include installing or working towards offshore wind facilities, encouraging living shorelines during the permitting process, minimizing road crossing impacts on aquatic habitats, and restoring connectivity among habitats. Restoration efforts that promote resiliency, adaptive strategies, and habitat enhancement are also underway. Working groups or legislation to reduce carbon outputs have been created in nine states, and working groups or legislation to respond to climate change threats have been created in eight states. Initiatives range from no action to Maryland’s commitment to 100% clean energy by 2050. There is also room for more collaboration and outreach – only ten states work with other agencies or organizations, and nine include climate change in their outreach efforts. Example of outreach that states are conducting include messaging in K-12 and teacher education programs, community preparedness programs, providing guidance on best management practices, and more.

## Recommendations

Through collaboration, communication, and coordination among federal, state, local, tribal, and nongovernmental organizations, make progress towards the following:

1. Energy production and use
  - a. Promote renewable energy production where appropriate. Renewable energy is more compatible with healthy fish habitat if properly sited, constructed, and operated. Via comment letters or other forms of engagement:

- i. Encourage BOEM, energy developers, and others to minimize habitat impacts of projects.
    - ii. Encourage BOEM and developers to engage with the fishing industry to understand and minimize fishery impacts.
  - b. Promote energy efficient fishery harvest techniques.
    - i. For example, consider energy efficiency implications associated with setting trip limits (number of trips, time fishing).
    - ii. Encourage the use of energy efficient gears where appropriate.
- 2. Science and monitoring
  - a. Prioritize and encourage funding to be allocated for long term, ongoing environmental monitoring.
  - b. Develop indicators and metrics for decision support.
  - c. Support continued climate vulnerability assessments to monitor long term changes in fish species and their habitats.
  - d. Promote research to understand the effects of climate change on fish species and their habitats. This could include effects on individual species (e.g. ocean acidification) as well as ecosystem and community-level effects (e.g. shifting community distributions and dynamics).
- 3. Increasing resiliency
  - a. Promote consideration of climate change during planning for coastal development.
    - i. Encourage state and federal agencies to incorporate climate change analysis in NEPA or other environmental review documents.
  - b. Encourage state and federal agencies to recognize potential for sea level rise and storm surge flooding (e.g. <https://www.epa.gov/cre/risk-based-adaptation>).
  - c. Promote the use of best management practices to support coastal habitat resiliency in the face of climate change.
    - i. For example, encourage the use of living shorelines and other natural solutions.

## **Additional Literature and Initiatives**

Beier, P., D. Behar, L. Hansen, L. Helbrecht, J. Arnold, C. Duke, M. Farooque, P. Frumhoff, L. Irwin, J. Sullivan and J. Williams (Actionable Science Workgroup of the Advisory Committee on Climate Change and Natural Resource Science). 2015. Guiding principles and recommended practices for co-producing actionable science: a How-To Guide for DOI Climate Science Centers and the National Climate Change and Wildlife Science Center. Report to the Secretary of the Interior: Advisory Committee on Climate Change and Natural Resource Science. Washington, DC.  
[https://nccwsc.usgs.gov/sites/default/files/files/How-to-Guide\\_Formatted\\_Aug%2013%202015.pdf](https://nccwsc.usgs.gov/sites/default/files/files/How-to-Guide_Formatted_Aug%2013%202015.pdf)

Advisory Committee on Climate Change and Natural Resource Science (ACCCNRS). 2015. Report to the Secretary of Interior. Washington, DC.  
[https://www.eenews.net/assets/2017/08/17/document\\_cw\\_01.pdf](https://www.eenews.net/assets/2017/08/17/document_cw_01.pdf)

Please see Appendix III for NOAA and US Fish and Wildlife Service climate change initiatives.

# Appendix I 2016 Report on State Climate Change Initiatives

*Please note that some states have made additional steps towards addressing climate change since the 2016 report, or highlighted existing actions that were not captured in the 2016 report. These have not been incorporated in Appendix I but were included in Appendix II.*

## Background

The Atlantic States Marine Fisheries Commission's (Commission) Habitat Committee (Committee), a branch of the Interstate Fisheries Management Program, was developed to identify, enhance, and cooperatively manage vital fish habitat for conservation, restoration, and protection, as well as support the cooperative management of the Commission and jointly managed species. In 2016 the Committee has been focused on Goal 4 of the current [Commission Action Plan](#): to 'Protect and enhance fish habitat and ecosystem health through partnerships and education.'

This document addresses Strategy 4.6, Task 4.6.2 of the Action Plan:

*4.6 Engage in state and federal agency efforts to ensure climate change response strategies are included in habitat conservation efforts.*

*4.6.2 Identify ongoing practices in the state coastal regulatory planning that address climate change impacts.*

It contains information on climate change initiatives, as well as links to documents and websites, as reported by each within the Commission's boundaries. This information is the first step towards identifying gaps and making recommendations for improving coastal preparedness and resiliency to climate change.

## Maine

In 2013, the State of Maine established the Environmental and Energy Resources Working Group to identify administrative and strategic opportunities to improve Maine's ability to respond and adapt to changing physical conditions in the environment due to climatic influence. The Working Group was led by the Commissioner of the Department of Environmental Protection, and included the Director of the Governor's Energy Office, and the Commissioners of the Departments of Transportation; Marine Resources; Agriculture Conservation and Forestry; and Inland Fisheries and Wildlife. The report, [Monitoring, Mapping, Modeling, Mitigation and Messaging: Maine Prepares for Climate Change](#), presents current programs and activities and contains 32 recommendations. In general, the recommendations are to continue the interdepartmental cooperation; as well as current monitoring, mapping, modeling, and mitigation activities.

The [Department of Environmental Protection's Sustainability Division](#) is developing mechanisms for cross agency partnerships, information sharing, efficiencies, and streamlining. These efforts

will provide specific and identifiable tools to assist decision-makers. The [Adaptation Toolkit](#), in development, will aid climate adaptation efforts by providing a centralized source to go to for the information one might need for designing and implementing resiliency practices, as well as information on important regulations and standards to integrate into their project or planning process, and opportunities to connect with state and other engaged practitioners for technical expertise.

In 2015, The Maine Department of Inland Fisheries and Wildlife collaborated with over 150 public and non-profit Conservation Partner groups (including private landowners, conservation organizations, sporting groups, scientists, and governmental agencies) to draft [Maine's 2015 Wildlife Action Plan](#). The Action Plan addresses the full array of Maine's wildlife across all taxa groups and habitats and identifies 378 Species of Greatest Conservation Need and provides species-specific and habitat-based actions to help prevent further species declines over the next ten years. In an effort to understand which of Maine's species and habitats are most vulnerable to climate change impacts, the Department of Inland Fisheries and Wildlife collaborated with the Manomet Center for Conservation Science and other partners on a climate change vulnerability assessment. The report, [Climate Change and Biodiversity in Maine: Vulnerability of Habitats and Priority Species](#), classifies the vulnerability of the species and habitats to climate change.

The Maine Stream Connectivity Work Group and Maine's Aquatic Resources Management Strategy are working to minimize the impacts of road crossings on Maine's aquatic systems, which are becoming stressed by more frequent and severe storms.

The Department of Marine Resources continues to implement a wide range of [fisheries research monitoring](#) activities for stock assessments; however, the time series will also be useful for understanding changing environmental conditions.

The Department of Marine Resources has maintained an [Environmental Monitoring Program](#) in Boothbay Harbor for over a century. The observations began in March of 1905 and constitutes one of the longest running, continuous series of sea temperature observations for any point on the North American Atlantic Coast. Currently, observations of air temperature, barometric pressure, sea surface temperature, relative humidity, wind speed, and wind direction are recorded at daily intervals.

## **New Hampshire**

The New Hampshire Fish and Game Department (NHFG) is addressing climate change through four different avenues: planning, science, outreach, and communication.

The NHFG's 2015 [Wildlife Action Plan](#) (WAP) Update specifically recognized climate change as a risk factor for both habitats and species. Because of this, species and habitat profiles include their sensitivity to climate change-related parameters, and the weighted risk of those species and habitats in regards to



impacts such as sea level rise (SLR), changes in precipitation, increased storm activity, changes to air and sea temperature, etc.

The Great Bay National Estuarine Research Reserve (NERR, part of NHFG) continuously monitors salt marsh distribution and condition along with information about the salinity of pore water and marsh elevation. Over time, this information will help inform if and how SLR is impacting salt marsh health at three sites around Great Bay. NHFG also has detailed habitat maps for Great Bay (and will have them for the whole coastal region by next fall). These are considered baseline maps from which to compare future changes. The NERR is also installing a tide gauge in the southern reach of Great Bay to monitor water level over time. The Sea Level Affecting Marsh Migration Model (SLAMM) was run for all of coastal New Hampshire as a part of the WAP, predicting how salt marsh distribution is likely to change under different SLR scenarios and where there is potential for migration. This information was combined with current condition information to determine where the highest quality marsh is likely to migrate, and where restoration opportunities are likely to be valuable in light of potential SLR.

The Great Bay NERR and NH Department of Environmental Services co-chair the Coastal Adaptation Workgroup – a group of outreach professionals that coordinate to bring the best climate-related science to local communities. Much of this revolves around wise planning to protect both natural and built assets. The Great Bay NERR hosts a Climate Summit each spring (topics this year include: living shorelines, presentations about the WAP, fisheries impacts in the Gulf of Maine, impacts on groundwater along the coast, culvert assessment work, dune restoration, city planning case studies, etc.). NHFG is also incorporating climate-related messages into their K-12 and teacher education programs. This summer they will host a teacher training workshop focused on how protected places can be observed to determine climate-related impacts over time; and the NHFG will be hosting an intern who will be developing a volunteer phenology program for the center.

NHFG has two representatives on the [Coastal Risks and Hazards Commission](#), a state wide legislatively-directed commission that was charged with providing guidance and consistent information to state agencies and municipalities on how to assess and prepare for coastal storms, SLR, and increased precipitation. A draft report and recommendations on “[Preparing New Hampshire for Projected Storm Surge, Sea-level Rise, and Extreme Precipitation](#)” has been prepared. Because of the recommendations from the report, each state agency is going to be asked to review its rules and regulations in light of the science and recommendations provided by the commission. The legislation is pending now (2016), and if passed would likely go into effect next year (2017).

Additional Links:

The NH Fish and Game Department’s Wildlife Action Plan:

<http://www.wildlife.state.nh.us/wildlife/wap.html>

The State of New Hampshire website: <http://www.nh.gov/climate/>

The NH Department of Environmental

Services: <http://des.nh.gov/organization/divisions/air/tsb/tps/climate/>

## Massachusetts

In 2008 Massachusetts passed a global warming solutions act to reduce emissions, increase green infrastructure, and to analyze strategies for adapting to predicted changes in climate. The [Massachusetts Climate Change Adaptation Report](#) released in September 2011 by the Executive

Office of Energy and Environmental Affairs includes an overview of anticipated impacts and key adaptation strategies to increase resilience and preparedness.

Regarding fisheries, Massachusetts sits on the boundary of two biogeographic provinces, the Gulf of Maine and the Mid-Atlantic Bight. The state is already seeing shifts in species range distributions (black sea bass, American lobster, northern shrimp). The Division of Marine Fisheries collects bottom temperature data, every two hours at 60-70 sites across the state. Bottom temperature data is stored in an in-house database containing over 2 million readings dating back as far as 1986 for some sites. The Division of Marine Fisheries also has trawl data back to the 1970's.

In 2007 the mayor of Boston passed an Executive Order Relative to Climate Action, which called for a plan every three years. The first update was produced in 2014 (summary here: [http://www.cityofboston.gov/images\\_documents/Greenovate%20Boston%202014%20CAP%20Update\\_Summary\\_tcm3-49733.pdf](http://www.cityofboston.gov/images_documents/Greenovate%20Boston%202014%20CAP%20Update_Summary_tcm3-49733.pdf)), and includes a variety of proposals, addressing open space, education, renewable energy, etc.

## Rhode Island

In July 2014, the Rhode Island General Assembly approved the Resilient RI Act ([RIGL §42-6.2](#)), which formally established the Executive Climate Change Coordinating Council, as well as set specific greenhouse gas reduction targets, and incorporated consideration of climate change impacts into the powers and duties of all state agencies. The Coordinating Council is comprised of Directors and Commissioners from nine state agencies/offices and is supported by an Advisory Board and Science and Technical Advisory Board. It is charged with leading and coordinating state agencies in responding to the challenges posed by climate change in a timely and effective manner, focusing in particular on:

- assessing, integrating and coordinating efforts throughout state agencies to reduce greenhouse gas emissions, strengthen the resilience of communities, and prepare for the impacts of climate change;
- improving our understanding of the effects climate change will have in RI;
- working in partnerships to identify, develop and implement strategies to be better prepared, and reduce risk and losses.

There are several projects underway that will provide information to support future Coordinating Council recommendations. A few coastal related projects include the following. As first step in helping to reduce Rhode Island's greenhouse gas emissions is the completion of the 30 Megawatt Block Island Offshore Wind Project. This will be the first offshore wind project in the country. Located approximately three miles southeast of Block Island, the project which started construction in 2015, is now complete and currently undergoing operational tests. The system is expected to be commercially operational by the end of 2016. The spatial planning and fisheries-related research and monitoring used to guide this work may provide a blueprint for other states and coastal communities.

To assess the effects climate change in Rhode Island the Executive Council's Science and Technical Advisory Board prepared a brief synopsis of the state of knowledge of the following manifestations of climate change: SLR, warming air temperatures, warming water (marine and fresh) temperatures, storm frequency and intensity, biodiversity (changes in species and habitats), and precipitation and inland flooding. The information summarized in this report will assist state agencies, decision-makers, and the public understand the real impacts RI is already experiencing due to a changing climate.

The Coastal Resources Management Council continues work on the Shoreline Change Special Area Management Plan, developing scientifically-based data and tools to aid in coastal hazard adaptation planning. The Management Council has completed revised Shoreline Change Maps for the shore communities showing how Rhode Island's shoreline has changed over time due to erosion, and how we might expect it to change in the future. Additional tools and other key resources are available from the [website](#) to aid the state and municipalities in supporting sound policy decisions which address coastal erosion, SLR and storm surge inundation problems.

The Department of Environmental Management has also addressed considerations related to climate change throughout the recently updated [State Wildlife Action Plan](#). In short, Wildlife Action Plan reviewed vulnerability assessments for several species of great concern, identified threats to species and their habitats, and proposed actions to reduce these threats. In addition, the Division of Fish and Wildlife's Marine Fisheries Section continues to conduct long-term monitoring programs and collaborate on several local and regional research projects investigating the effects of climate change on managed species and the state's marine resources. State Wildlife Action Plans also have to specifically take into account climate change adaptation. Climate change is primarily in Chapters 1 (species), 2 (habitats), 3 (threats), and 4 (actions to abate threats to species and habitats).

In October 2015, the State Planning Council voted to adopt Rhode Island's new State Energy Plan "[Energy 2035](#)" as an element of the State Guide Plan, codifying the Plan as the state's formal long-term, comprehensive energy strategy. The Plan, produced by the Office of Energy Resources in collaboration with the Division of Planning, represents Rhode Island's first data-driven energy planning and policy document. Its vision is to provide energy services across all sectors—electricity, thermal, and transportation—using a secure, cost-effective, and sustainable energy system

In January 2016, the Management Council adopted amendments to Section 145 - Climate Change and Sea Level Rise of the Coastal Resources Management Program to update SLR projections for short-, mid- and long-term timelines of 2035, 2050, and 2100 respectively, as calculated using the current NOAA methodology, and based on the Newport, RI NOAA tide gauge.

In early 2016, OER launched the state's first ever electric vehicle rebate program to support adoption of electric vehicles by Ocean State drivers: [Driving RI to Vehicle Electrification \(DRIVE\)](#). The program made \$200,000 available for qualified RI residents interested in purchasing or leasing an electric vehicle to apply for a financial rebate of up to \$2,500, based upon vehicle battery capacity. Modeled closely on existing rebate programs offered in other states, DRIVE offers the potential to increase the total number of EVs on RI roadways by 20-35%.

## Connecticut

The [Connecticut Climate Change Action Plan](#) was initiated in 2005 with the goal of reducing greenhouse gas emissions to achieve regional goals set by the New England Governors/Eastern Canadian Premiers. The Action Plan addresses quantification of benefits and costs of greenhouse gas reductions using existing analytical measures and a newly developed desktop modeling tool developed under the direction of the Environmental Protection Agency (EPA). As the first state to utilize this new tool, Connecticut was able to identify benefits previously not quantified. To successfully meet the requirements of the Action Plan, a Governor's Steering Committee established working committees at both the agency head and staff level to develop, implement, and track progress on recommended actions.

Additional legislation passed in following years, and complementary to the Action Plan, Connecticut adopted California emissions standards; promoted hybrid fuel cars through tax incentives; set efficiency standards for products and appliances; and promoted the purchase of "Connecticut Grown" foods. A Governor's Executive Order requires the state to purchase renewable energy in increasing amounts, leading to 100% clean energy by 2050. Legislation also simplified the permitting process in ways that encourage implementation of 'living shorelines' in place of shoreline armoring.

Additional monitoring programs include:

*Long Island Sound Study Sentinel Monitoring for Climate Change:* A multidisciplinary scientific approach to provide early warning of climate change impacts to Long Island Sound ecosystems. This program is conducted jointly by EPA Regions 1 & 2, Connecticut Department of Energy and Environmental Protection, New York Department of Environmental Conservation, and several academic institutions.

*Connecticut Institute for Resilience and Climate Adaptation:* Established in 2013 under the direction of the Department of Energy and Environmental Protection and the University of Connecticut to conduct research, outreach, and education projects as well as guide the development of technologies and regulatory provisions that increase the protection of ecosystems, coastal properties, other lands, and attributes of the state that are subject to the effects of rising sea level.

## New York

New York has an [Office of Climate Change](#) within the New York Department of Environmental Conservation that coordinates efforts relating to climate change. The [New York State Energy Research and Development Authority](#) developed the [Responding to Climate Change in New York State: The ClimAID Integrated Assessment for Effective Climate Change Adaptation in New York State](#) report that includes the impacts of climate change and recommendations.

New York developed a [Sea Level Rise Task Force Report](#) in 2009, which includes impacts and recommendations as well. The report led to the 2014 Community Risk and Resiliency Act. This Act:

- 1) Incorporates state-adopted SLR projections as regulation by Jan. 1, 2016 (Department of Environmental Conservation) and establishes a new 6 New York Community Risk and Resiliency Part 490, Projected Sea-level Rise (Part 490). Part 490 will establish projections of SLR in three specified geographic regions over various time intervals, but will not impose any requirements on any entity.
- 2) Adds mitigation of SLR, storm surge, and flooding to Smart Growth Public Infrastructure Policy Act criteria and guidance by Jan. 1, 2017 (Department of Environmental Conservation, Department of State).
- 3) Models local laws to enhance resiliency by Jan. 1, 2017 (Department of Environmental Conservation, Department of State).
- 4) Considers SLR, storm surge, and flooding in 19 programs (facility-siting regulations, permits and funding) by Jan. 1, 2017 (Department of Environmental Conservation, Department of State), including a checklist on how to consider SLR, storm surge and flooding in permitting decisions.
- 5) Requires guidance on implementation of the Community Risk and Resiliency Act and the use of natural resiliency measures to reduce risk by Jan. 1, 2017 (Department of Environmental Conservation, Department of State), considering the ability of natural resiliency measures to provide for storm-related and other benefits.

New York also has guidance on flood risk management standards, culvert sizing, living shorelines, nature-based shorelines, and wetland migration. The Office of Climate Change also has a greenhouse gas emissions initiative, which develops caps, performance standards for CO<sub>2</sub> emissions, Climate Smart Communities programs – certifying communities for climate-friendly actions, greenhouse gas emissions targets, and grants to assist in implementation.

The New York State Energy Research and Development Authority conducts environmental research and analysis and provides technical expertise and support to New Yorkers in order to increase renewable energy usage and efficiency. They are currently studying atmospheric deposition and impacts on natural resources. New York also has a [Climate Change Science](#)

[Clearinghouse](#), which provides New York State-related climate change data and information to inform decision making.

New York is involved in National Estuary Programs and National Estuarine Research Reserve sites, which conduct research monitoring, the results of which are integrated in all climate change management plans and state wildlife action plans, ultimately affecting how we manage resources. Vulnerability assessments are being conducted – these assess at-risk natural resources and infrastructure, develop adaptation strategies, support low impact development and green infrastructure, and include wetland migration pathway modeling to advise management decisions.

Finally, New York also has monitoring networks (climate sentinel monitoring projects, sediment elevation tables, water quality, is developing wetland rapid assessments, and conducting marsh loss trend assessments). Restoration efforts support habitat connectivity, large scale wetland restoration, and focus on managing threats to trust species.

## **New Jersey**

There are many efforts underway in New Jersey to mitigate and respond to the impacts of climate change including: substantial investment in clean energy initiatives such as renewable energy production from solar, wind, and geothermal sources; improving energy efficiency; and reducing overall energy use and intensity. In addition, the State of New Jersey has taken significant steps in creating climate change-related community preparedness programs with a focus on resiliency and adaptation efforts at the local and state level. These programs involve strong interaction with local governments at the land use planning level as well as efforts to protect critical infrastructure and ecosystems, and new suites of regulations related to the design of buildings, roads, and bridges ([www.globalchange.gov](http://www.globalchange.gov)).

Following Superstorm Sandy, New Jersey State Departments and Agencies have incorporated resiliency strategy and planning into every aspect of the recovery process in an effort to rebuild better and more resilient than before. Many of these initiatives will serve to make New Jersey more resilient to the adverse effects of future climate change. Among the initiatives are: beach and dune projects, acquisition of properties in repetitive flood loss areas, energy resilience at critical facilities throughout the State, and actions to address emergency fuel – highlighted during Superstorm Sandy by building resilience in fuel supply and distribution. As part of their long-term recovery strategy, New Jersey has committed to rebuilding by focusing on implementing *resilient* infrastructure projects and mitigation opportunities to prevent future damage, and utilizing construction techniques and materials that will better withstand future weather events. The State will continue to leverage existing federal and state resources to pursue these long-term strategic priorities and empower local governments to revitalize their communities. New Jersey has also focused its efforts on future emergency response programs. For more detailed information, please visit the [Governor's Office of Recovery and Rebuilding](#) website at <http://nj.gov/gorr/>.

The continued development of a long-term comprehensive statewide adaptation plan needs to involve the input and action of many parties, including federal, state and local governments; non-governmental organizations; academia; private industry; and the citizens of New Jersey. Safeguarding New Jersey's residents, its built and natural environment, and ensuring that the State continues to grow in a manner that is both sustainable and resilient to the adverse effects of climate change will require adaptation planning. More information on New Jersey's Adapting to a Changing Environment Program is available at <http://www.nj.gov/dep/aqes/adapting.html>.

Additionally, Rutgers University formed the [New Jersey Climate Adaptation Alliance](http://njadapt.rutgers.edu) in 2011 (<http://njadapt.rutgers.edu>). The Climate Adaptation Alliance is described as *"a network of policymakers, public and private sector practitioners, academics, and NGO and business leaders designed to build climate change preparedness capacity in New Jersey...The Alliance is focused on climate change preparedness in key impacted sectors (public health; watersheds; rivers and coastal communities; built infrastructure; agriculture; and natural resources)." The ultimate goal of this initiative is to assess climate vulnerability and preparedness needs for critical sectors in New Jersey and to develop capacity for response implementation in New Jersey. One of the important products of the Climate Adaptation Alliance was the development of the New Jersey Climate Adaptation Directory. According to the Climate Adaptation Alliance, "the directory was created to provide resources that assist in guiding practitioners in New Jersey through the adaptation planning process. This directory brings together geographic data, tools, reports, model policies and ordinances, case studies, and current projects focused on evaluating vulnerabilities and developing and implementing climate change adaptation plans and strategies. The resources included are aimed at professionals in a range of fields, including but not limited to infrastructure, public health, emergency management, hazard mitigation, natural resources, economic development, agriculture, and land use planning."* This resource can be found here: <http://njadapt.rutgers.edu/resources/climate-adaptation-directory#>.

## **Pennsylvania**

Pennsylvania has two separate fish and wildlife agencies: Pennsylvania Fish and Boat Commission and Pennsylvania Game Commission. The state also has the Pennsylvania Department of Environmental Protection, which is primarily regulatory, and the Department of Conservation and Natural Resources that manages the State Parks and Forests.

The Pennsylvania Climate Change Act of 2008 required the Department of Environmental Protection to produce a report on the anticipated climate change impacts in Pennsylvania and also a Climate Change Adaptation Strategy. Both are to be updated every three years. The original reports were produced in 2009 and have both been updated in 2013 and 2015 (<http://www.dep.pa.gov/Business/Air/BAQ/AdvisoryGroups/CCAC/Pages/default.aspx#.VyJQWYLD-po>). The [report](#) addresses freshwater tidal waterfront on page 197. From the report: Pennsylvania has approximately 56 miles of coastline on the Delaware Estuary that is largely freshwater and home to diverse flora and fauna. This includes approximately 1200 acres of freshwater tidal wetlands. Impacts to these habitats include decreased dissolved oxygen

concentrations, SLR, and salinity intrusion. The potential for loss of these wetlands is high if accretion rates do not keep up with SLR. There is a low potential for migration due to development. Further discussion on typical climate change impacts and strategies is extensive in these documents.

The Department of Conservation and Natural Resources has developed the [DCNR and Climate Change: Planning for the Future](#) document describing climate change's current and projected impacts on the state parks and forests, and their approach to adapt to these impacts. The [2015-2025 Pennsylvania Wildlife Action Plan](#) offers a review of threats posed by climate change. This plan includes species with declining or imperiled populations, or with secure populations, but substantial environmental threats, and their habitats. Among the primary climate change information sources in this plan include the Northeast Climate Science Center ([Staudinger et al. 2015](#)), and state documents produced by the Department of Environmental Protection. Climate change is identified as a threat to 29.5% (196 species of a total 664) of the Species of Greatest Conservation Need in the plan, which also discusses vulnerability and associated risk of those species and habitats to climate change (2015-2025 Pennsylvania Wildlife Action Plan, [Chapter 3](#), pp. 29-70 and 95-107). The Plan ([Chapter 4](#), pp 85-101) also includes conservation actions to address climate change, including regional ([Staudinger et al. 2015](#)) and national adaptation strategies ([National Fish Wildlife Plants Climate Adaptation Partnership 2012](#)).

## Maryland

Maryland has developed the [Climate Change Maryland](#) website to educate citizens about climate change and the actions that the state is taking to reduce its carbon footprint. This program includes participation from over 12 state agencies. It contains information on the [Greenhouse Gas Reduction Plan](#), which was written in 2012 (and updated in 2015) to address the 2009 Greenhouse Gas Emissions Reduction Act. The Greenhouse Gas Reduction Plan's goals are to reduce greenhouse gas emissions by 25% by 2020 by reducing all sectors' (energy, transportation, agriculture, etc.) carbon footprint. It has more than 150 programs and initiatives to address carbon emissions related to energy, construction, fisheries, forestry, etc.

The state also has a two phase plan to reducing Maryland's vulnerability to climate change. [Phase I](#) was published in 2008 and addresses SLR and coastal storms. [Phase II](#) was completed in 2011 and focuses on building societal, economic, and ecological resilience.

In 2012 the [Climate Change and CoastSmart Construction Executive Order](#) was signed to ensure all new and reconstructed state structures have minimal to no flood risk based on improved planning and construction.

## Virginia

The Governor's Commission on Climate Change published [A Climate Change Action Plan](#) in 2008, which includes the effects of climate change (on the built environment, insurance,



natural systems, etc.), recommendations, and commission deliberations. In December of 2014, the state published [Virginia Accomplishments Since the 2008 Climate Action Plan Release](#). According to the executive summary, Virginia has taken many mitigation and adaptation actions in regards to climate change, but these changes were not necessarily in response to particular recommendations or carried out in a coordinated manner. One year later, in December 2015, the Governor Terence R. McAuliffe's Climate Change and Resiliency Update Commission published the [Report and Final Recommendations to the Governor](#), which includes the top five recommendations to address climate change in the state. These include: i.) establishing a climate change and resilience resource center, ii.) creating a new Virginia bank for energy and resiliency, iii.) establishing a renewable energy procurement target for Commonwealth agencies, iv.) adopting a zero emission vehicle program, and v.) leveraging federal funding to make coastal communities more resilient. During the 2016 legislative session Virginia created the Commonwealth Center for Recurrent Flooding Resiliency, a joint venture of Old Dominion University, the College of William & Mary and the Virginia Institute of Marine Science. With an initial budget allocation of \$2 million in state support these institutions will work together to provide critical research, policy, and outreach resources to protect natural resources and create resilient communities across the Commonwealth.

## North Carolina

In 2015, the North Carolina Coastal Resource Commission Science Panel completed their five-year [update of their 2010 Report and the 2012 Addendum](#) as mandated by the General Assembly in Session Law 2012-202. This update incorporated the most recent science and uses a 30-year projection for SLR. The report emphasized the different rates of SLR across the coast of North Carolina. These differences were attributed to subsidence and the effects of water movements within the ocean itself. The panel recommended that the report continue to be updated every five years.

The 2016 update of North Carolina's Coastal Habitat Protection Plan addresses SLR and climatic changes in several locations with recommendations specifically to the protection of wetlands and buffers to help offset the expected rise. The Source Document for the Coastal Habitat Protection Plan, and the Plan itself, can be accessed at:

<http://portal.ncdenr.org/web/mf/habitat/chpp/downloads>.

The [Albemarle-Pamlico National Estuary Partnership](#), through its [2012-2022 Comprehensive Conservation and Management Plan](#) incorporates climatic impacts throughout, but has three actions focused on climate change and SLR. Two actions address the impacts of SLR and climate change on the regional ecosystem as well as supporting research on adapting to those impacts. The third action supports engaging state, regional, and local governments and assisting them with incorporating SLR and climate change into their planning processes.

Both the North Carolina National Estuarine Research Reserve and the U.S. Fish and Wildlife Service have incorporated significant aspects of SLR and climate change research into their

strategic plans. With several extensive National Wildlife Refuge systems on North Carolina's coast and four National Estuarine Research Reserve sites in eastern North Carolina, significant research is being done in those locations. Much of the research deals with hydrologic restoration and the study of wetlands and their mitigating impacts on SLR.

## South Carolina

In 2013, the South Carolina Department of Natural Resources compiled a report titled "[Climate Change Impacts to Natural Resources in South Carolina](#)." The following two sentences from the report highlight the goal the agency had in writing it: "The Department of Natural Resources is taking a lead role among South Carolina state agencies to advance the scientific understanding of the vulnerability of South Carolina's vital natural resources during an era of changing climate. This will enable the agency, its partners, constituents, and all Palmetto State citizens to avoid or minimize the anticipated impacts while protecting South Carolina's natural resources." The report identifies a number of concerns for the state's natural resources including SLR, ocean acidification, and temperature rise effects. The state has a high proportion of the coastline that is comprised of marshes, barrier islands, and hammock islands. Many of these lands are owned by state and federal entities. The document has various strategies for research and for developing and protecting land to provide for migration.

Other scientists, such as Dr. James Morris from the University of South Carolina, are conducting research evaluating the fate of marshes due to potential SLR. The recent thousand-year rain event in the state and King Tides are raising public awareness of what SLR will probably entail.

## Georgia

In Georgia, most of the authority for responding to climate change rests with the local governments. There is not a statewide plan or regulatory measures in place. Their [State Wildlife Action Plan](#), however, does address climate change. With that in mind, there aren't any vulnerability assessments regarding fisheries. NOAA Fisheries Science Centers are working on assessing climate vulnerabilities for many species at the federal level.

Georgia is home to Gray's Reef National Marine Sanctuary, and NOAA is taking a three-pronged approach to address climate change: they are using Gray's Reef as a sentinel site, responding to change through adaptive management, and increasing climate change communication.

Climate change links for Gray's Reef and other National Marine Sanctuaries include:

<http://sanctuaries.noaa.gov/science/sentinel-site-program/climate-change-ocean-acidification.html>

<http://marineprotectedareas.noaa.gov/sciencestewardship/climatechangeimpacts/>

<http://sanctuaries.noaa.gov/science/sentinel-site-program/grays-reef/climate-change-ocean-acidification.html>

## Florida

The Florida Fish and Wildlife Commission led a stakeholder summit on Climate Change in 2008. A report was generated in 2009 from this summit entitled “[Florida’s Wildlife: On the front line of climate change.](#)” As a result of this summit and due to the resulting recommendations, the Fish and Wildlife Commission established a Climate Change Oversight Team and developed adaptive strategies to address identified climate change threats to fish and wildlife and their habitats. Climate change considerations have been integrated into Florida’s [State Wildlife Action Plan](#), and funding has been provided to aquatic habitat projects supporting climate change adaptive strategies, such as living shoreline projects and regional climate change effects mitigation planning efforts. Funding opportunities for aquatic habitat restoration and enhancement projects supported by the Fish and Wildlife Commission ensure evaluation of climate change adaptation in all project proposals submitted. The state follows guidance in [Adapting to Climate Change: A Planning Guide for State Coastal Managers](#), a 2010 report from NOAA.

The Florida Oceans and Coastal Council published [The Effects of Climate Change on Florida’s Ocean and Coastal Resources](#) in 2009, and [updated the report](#) in December 2010. These reports were written for the Florida Energy and Climate Commission and the residents of Florida. The original report included information on the 2007 Intergovernmental Panel on Climate Change Report, the impacts of climate change on Florida’s infrastructure, human health, and economy, the effects of the ‘drivers’ of climate change, and research priorities, while the update focused on SLR effects and research priorities.

Florida has also worked with partner organizations, such as The Nature Conservancy, to implement projects addressing resiliency and plan for coastal climate change. This has been a key focus of south Florida, which is generally recognized as being one of the most vulnerable regions in the Commission management region to SLR. Partners have developed shoreline resiliency and coral reef teams including the Shoreline Resiliency Working Group and Southeast Florida Coral Reef Initiative, which are focused on assessing and addressing the effects of climate change on coastal habitats. The Governor’s South Atlantic Alliance recently sponsored (April 2016) a southeast U.S. Living Shorelines Summit in Jacksonville, Florida, which specifically addressed coastal habitat resiliency in the face of accelerated SLR. This effort has resulted in the development of a number of different regional resources, including a living shoreline training academy, which provides managers and the public with a certification in living shoreline design and implementation.

## Appendix II Summary of Climate Change Initiatives by State

For a table on the current climate change initiatives in each state, visit:  
<http://www.asmfc.org/uploads/file/5a5e340eClimateChangeActionsGaps.pdf>.

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## Appendix III NOAA and US Fish and Wildlife Service Climate Change Initiatives

### NOAA

NOAA Program	Climate Change Initiative Description
Annual NOAA/NCDC State of the Climate Reports	These began in 1991 and can be downloaded from <a href="http://www.ncdc.noaa.gov/bams-state-of-the-climate/">http://www.ncdc.noaa.gov/bams-state-of-the-climate/</a>
NOAA-wide effort	The Third National Climate Assessment (2014). It includes regional chapters, as well chapters for coastal and oceans, ecosystems, and ancillary reports with additional details for some regions and subject areas. <a href="http://nca2014.globalchange.gov/report">http://nca2014.globalchange.gov/report</a>
NOAA Restoration Center, Community-based Restoration Program and Damage Assessment, Remediation and Restoration Program	Restoration project designs consider climate change impacts to both the immediate restoration and long-term stewardship of project sites. E.g., sea level rise impacts
NOAA Restoration Center, Northeast Region	Guidance on flood frequency estimates for resilient infrastructure and stream restoration. The Restoration Center has been studying historical climatic trends in river floods in the Northeast to support the design of fish passage and river restoration projects, and findings have documented increasing flood magnitudes and frequencies in recent decades. They have also developed Planning for Sea Level Rise in the Northeast: Considerations for the Implementation of Tidal Wetland Habitat Restoration Projects (2011)
NMFS Habitat Conservation Division (HCD), Essential Fish Habitat and Hydropower License – Fish Passage Prescriptions	Consider climate change effects on habitats from the action. Includes climate effects on the proposed action that result in adverse effects to habitat
NMFS HCD (GARFO)	Developing a regional climate change guidance document to assist in integrating climate change information in consultation processes
NMFS Office of Habitat Conservation	Climate Smart Habitat Conservation webpage on climate change information with links for Coastal Blue Carbon, addressing sea level rise in salt marsh restoration projects, and other climate-related topics. <a href="http://www.habitat.noaa.gov/ourwork/climate.html">http://www.habitat.noaa.gov/ourwork/climate.html</a>
NOAA Climate Program Office	U.S. Climate Resilience Toolkit, hosted by NOAA’s National Centers for Environmental Information. <a href="https://toolkit.climate.gov/">https://toolkit.climate.gov/</a> . The U.S. Climate Resilience Toolkit includes training materials and guidance documents to assist coastal resource managers in incorporating climate change

	<p>information into new or existing conservation plans.  <a href="https://coast.noaa.gov/digitalcoast/training/considering-climate-change">https://coast.noaa.gov/digitalcoast/training/considering-climate-change</a></p>
NOAA Coral Reef Conservation Program	Competitive grant program providing funding and coordination for external and internal NOAA activities on shallow-water coral reef conservation, including research on ocean acidification and bleaching
NOAA Chesapeake Bay Office	Program contributes to climate change research, monitoring, resiliency, and adaptation, e.g., research on climate change effects on oysters
NOAA Sentinel Site Cooperative in North Carolina and Chesapeake Bay	NOAA works with regional partners and leverages resources on issues related to climate change, including sea level rise and inundation through coordinated data sharing, monitoring, research, local community capacity building, and adaptation support, which includes habitat conservation
National Fish, Wildlife, and Plants Climate Adaptation Strategy	Office of Habitat Conservation contributed to the development of this broad strategy that includes coastal habitat adaptation needs
NMFS Office of Habitat Conservation, Coastal Blue Carbon	<p>General information on coastal blue carbon, with a number of links for further reading on the subject including research and development and protocol standards.  <a href="http://www.habitat.noaa.gov/coastalbluecarbon.html">http://www.habitat.noaa.gov/coastalbluecarbon.html</a></p>
NOAA Living Shorelines Guidance	<p>NOAA's living shorelines webpage contains background and technical information on, as well as examples of, living shorelines:  <a href="https://www.habitatblueprint.noaa.gov/living-shorelines/">https://www.habitatblueprint.noaa.gov/living-shorelines/</a>;  NOAA Fisheries Office of Habitat Conservation's Restoration Center website contains information related to living shorelines:  <a href="http://www.habitat.noaa.gov/restoration/techniques/livingshorelines.html">http://www.habitat.noaa.gov/restoration/techniques/livingshorelines.html</a>;  NOAA guidance on living shorelines can be downloaded here:  <a href="http://www.habitat.noaa.gov/pdf/noaa_guidance_for_considering_the_use_of_living_shorelines_2015.pdf">http://www.habitat.noaa.gov/pdf/noaa_guidance_for_considering_the_use_of_living_shorelines_2015.pdf</a></p>
NOAA Regional Coastal Resilience Grant Program	Grants program to support regional approaches that build resilience of coastal regions, communities, and economic sectors to the negative impacts from extreme weather events, climate hazards, and changing ocean conditions. <a href="https://www.coast.noaa.gov/resilience-grant/">https://www.coast.noaa.gov/resilience-grant/</a>
NMFS Saltonstall-Kennedy Grant Program	\$10 million competitive grant program to build resilient coastal communities and sustainable marine resources.
NMFS Northeast Region Fishery Science Center, Ecosystems Dynamics and Assessment Program	Program website includes a comprehensive review of climate change effects on the Northeast Continental Shelf ecosystem. <a href="https://www.nefsc.noaa.gov/ecosys/">https://www.nefsc.noaa.gov/ecosys/</a>
NMFS Climate Science Strategy and Regional Climate Science Action Plans	Informs NMFS science activities (monitoring, research, modeling, and assessments), including tracking current conditions, providing early warnings and forecasts, understanding the mechanisms of climate impacts, and projecting future conditions, evaluating possible options for fisheries management and protected resources conservation in a changing world
NOAA's Earth Science Research Laboratory,	Climate Change Portal, a web interface that users can access and display climate and earth system model output. <a href="https://www.esrl.noaa.gov/psd/ipcc/ocn/">https://www.esrl.noaa.gov/psd/ipcc/ocn/</a>

Physical Sciences Division (PSD)	
NOAA National Oceanographic Data Center, National Centers for Environmental Information, Ocean Climate Laboratory Team	Provides support for the Northwest Atlantic Regional Climatology webpage, providing high-resolution ocean climatology as part of the NOAA-wide Sustained Marine Ecosystem in Changing Climate Project. <a href="https://www.nodc.noaa.gov/OC5/regional_climate/nwa-climate/">https://www.nodc.noaa.gov/OC5/regional_climate/nwa-climate/</a>
NOAA's Office for Coastal Management	In collaboration with The Nature Conservancy and ESRI, NOAA developed the Climate Wizard, a web-based interactive mapping platform which provides access to U.S. and global climate change information including historical and projected temperature and precipitation data using different greenhouse gas emission scenarios for two future time periods. <a href="http://climatewizard.org/">http://climatewizard.org/</a> . Digital Shoreline Analysis System is an ArcGIS-based software package jointly developed by NOAA and the U.S. Geological Survey. The software computes the rate of shoreline change using historical shoreline positions represented in a GIS. <a href="https://coast.noaa.gov/digitalcoast/tools/dsas.html">https://coast.noaa.gov/digitalcoast/tools/dsas.html</a> . The Digital Coast is a sea level rise projection mapping tool. <a href="https://coast.noaa.gov/digitalcoast/tools/slr">https://coast.noaa.gov/digitalcoast/tools/slr</a>
The National Ocean Service (NOS) National Center for Coastal and Ocean Science	Ecosystem Effects of Sea Level Rise research program provides a suite of science products to inform coastal managers of local coastal vulnerability and solutions to mitigate flood risk.
NOAA's National Centers for Environmental Information (NCEI)	Arctic Regional Climatology Data. <a href="https://www.nodc.noaa.gov/OC5/regional_climate/arctic/">https://www.nodc.noaa.gov/OC5/regional_climate/arctic/</a>

### NOAA-Related Publications

Collins, M.J. 2009. Evidence for changing flood risk in New England since the late 20th Century. *Journal of the American Water Resources Association* 45(2): 279-290.

Fogarty, M., L. Incze, K. Hayhoe, D. Mountain and J. Manning. 2008. Potential climate change impacts on Atlantic cod (*Gadus morhua*) off the northeastern USA. *Mitigation and Adaptation Strategies for Global Change* 13: 453-466.

Fogarty, M., L. Incze, R. Wahle, D. Mountain, A. Robinson, A. Pershing, K. Hayhoe, A. Richards and J. Manning. 2007. Potential climate change impacts on marine resources of the northeastern United States. Report to Union of Concerned Scientists.

Friedland, K.D., J. Kane, J.A. Hare, G. Lough, P.S. Fratantoni, M.J. Fogarty and J.A. Nye. 2013. Thermal habitat constraints on zooplankton species associated with Atlantic cod (*Gadus morhua*) on the US Northeast Continental Shelf. *Progress in Oceanography* 116: 1-13.

Friedland, K.D. and C.D. Todd. 2012. Changes in Northwest Atlantic Arctic and Subarctic conditions and the growth response of Atlantic salmon. *Polar Biology* 35: 593-609.

Hare, J.A., W.E. Morrison, M.W. Nelson, M.M. Stachura, E.J. Teeters, R.B. Griffis, M.A. Alexander, J.D. Scott, L. Alade, R.J. Bell, A.S. Chute, K.L. Curti, T.H. Curtis, D. Kircheis, J.F. Kocik, S.M. Lucey, C.T. McCandless, L.M. Milke, D.E. Richardson, E. Robillard, H.J. Walsh, M.C. McManus, K.E. Marancik and C.A. Griswold. 2016. A vulnerability assessment of fish and invertebrates to climate change on the Northeast U.S. Continental Shelf. *PLoS ONE* 11(2): 30 pp.

Hare, J.A., Manderson, J.P., Nye, J.A., Alexander, M.A., Auster, P.J., Borggaard, D.L., Capotondi, A.M., Damon-Randall, K.B., Heupel, E., Mateo, I., O'Brien, L., Richardson, D.E., Stock, C.A. and S.T. Biege. 2012. Cusk (*Brosme brosme*) and climate change: assessing the threat to a candidate marine fish species under the US Endangered Species Act. – *ICES Journal of Marine Science*, 69: 1753-1768.

Kleisner, K.M., M.J. Fogarty, S. McGee, A. Barnett, P. Fratantoni, J. Greene, J.A. Hare, S.M. Lucey, C. McGuire, J. Odell, V.S. Saba, L. Smith, K.J. Weaver and M.L. Pinsky. 2016. The effects of sub-regional climate velocity on the distribution and spatial extent of marine species assemblages. *PLoS ONE* 11(2): e0149220. doi:10.1371/journal.pone.0149220.

Kunkel, K.E., L.E. Stevens, S.E. Stevens, L. Sun, E. Janssen, D. Wuebbles, J. Rennells, A. DeGaetano and J.G. Dobson. 2013: Regional Climate Trends and Scenarios for the U.S. National Climate Assessment: Part 1. Climate of the Northeast US NOAA Technical Report NESDIS 142-1. 87 pp. National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Service, Washington, DC [Available online at [http://www.nesdis.noaa.gov/technical\\_reports/NOAA\\_NESDIS\\_Tech\\_Report\\_142-1-Climature\\_of\\_the\\_Northeast\\_U.S.pdf](http://www.nesdis.noaa.gov/technical_reports/NOAA_NESDIS_Tech_Report_142-1-Climature_of_the_Northeast_U.S.pdf)].

Nye, J.A., J.S. Link, J.A. Hare and W.J. Overholtz. 2009. Changing spatial distribution of fish stocks in relation to climate and population size on the Northeast United States continental shelf. *Marine Ecology Progress Series* 393: 111-29.

Saba, V.S., S.M. Griffies, W.G. Anderson, M. Winton, M.A. Alexander, T.L. Delworth, J.A. Hare, M.J. Harrison, A. Rosati, G.A. Vecchi and R. Zhang. 2015. Enhanced warming of the Northwest Atlantic Ocean under climate change. *Journal of Geophysical Research: Oceans* 120: 1-15.

Sherman, K., I.M. Belkin, K.D. Friedland, J. O'Reilly and K. Hyde. 2009. Accelerated warming and emergent trends in fisheries biomass yields of the world's large marine ecosystems. *Ambio* 38: 215-224

Sweet, W.V., R.E. Kopp, C.P. Weaver, J. Obeysekera, R.M. Horton, E.R. Theiler and C. Zervas. 2017. Global and regional sea level rise scenarios for the United States. NOAA Technical Report NOS CO-OPS 083. 56 pp.

*Department of Interior*



<b>DOI Program</b>	<b>Climate Change Initiative Description</b>
US Geological Survey (USGS)	Responsible for climate change science leadership within the Department of Interior
USGS Climate Science Centers and National Climate Change and Wildlife Science Center	Work with natural and cultural resource managers to gather the scientific information and build the tools needed to help fish, wildlife, and ecosystems adapt to the impacts of climate change. <a href="https://nccwsc.usgs.gov/">https://nccwsc.usgs.gov/</a>
US Fish and Wildlife Service (FWS) The Climate of Conservation in America: 50 Stories in 50 States	State-by-state look at how accelerating climate change is impacting or may impact fish and wildlife across America. <a href="https://www.fws.gov/home/climatechange/stories505050.html">https://www.fws.gov/home/climatechange/stories505050.html</a>
National Fish, Wildlife and Plants Climate Adaptation Strategy	National, government-wide strategy to safeguard fish, wildlife, plants, and the natural systems upon which they depend. Led by FWS, NOAA, and New York Division of Fish, Wildlife, and Marine Resources. <a href="https://www.wildlifeadaptationstrategy.gov/index.php">https://www.wildlifeadaptationstrategy.gov/index.php</a>
FWS Climate Change Strategic Plan	Rising to the Urgent Challenge, Strategic Plan for Responding to Accelerating Climate Change. <a href="https://www.fws.gov/home/climatechange/pdf/CCStrategicPlan.pdf">https://www.fws.gov/home/climatechange/pdf/CCStrategicPlan.pdf</a>

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# Atlantic States Marine Fisheries Commission Updated Submerged Aquatic Vegetation Policy

## Executive Summary

Submerged aquatic vegetation (SAV) comprise some of the most productive ecosystems in the world. SAV is significantly important to many Atlantic States Marine Fisheries Commission (Commission) managed fish species, and afforded different degrees of protection up and down the coast. In 1997, the Commission's Habitat Committee developed a policy to communicate the need for conservation of coastal SAV resources, and highlight state and Commission-based activities for implementation of a coastal SAV conservation and enhancement program. The Commission encouraged implementation of this policy by state, federal, local, and cooperative programs which influence and regulate fish habitat and activities impacting fish habitat; specifically SAV.

In 2017, 20 years after the original policy was released, the Habitat Committee re-evaluated its recommendations and importance. Upon review, it was determined that the policy is still relevant, and arguably more important now than ever.

The Habitat Committee has left the goals largely unchanged from the 1997 version. The primary goal is to preserve, conserve, and restore SAV where possible, in order to achieve a net gain in distribution and abundance along the Atlantic coast and tidal tributaries, and to prevent any further losses of SAV in individual states by encouraging the following:

1. Protect existing SAV beds from further losses due to degradation of water quality, physical destruction to the plants, or disruption to the local benthic environment;
2. Continue to promote state or regional water and habitat quality objectives that will result in restoration of SAV through natural re-vegetation;
3. Continue to promote, develop, attain, and update as needed, state SAV restoration goals in terms of acreage, abundance, and species diversity, considering historical distribution records and estimates of potential habitat.
4. Continue to promote SAV protection at local, state and federal levels and when unavoidable impacts to SAV occur from permitted coastal alterations or other unintended actions, agencies should implement compensatory mitigation for the functional and temporal impacts.

There are six key components to achieving the goal of this policy: 1) Assessment of historical, current and potential distribution and abundance of SAV; 2) Protection of existing SAV; 3) SAV Restoration and Enhancement; 4) Public Education and Involvement; 5) Research; and 6) Implementation.

The background information, policies and recommended actions have been updated based on emerging issues and new information released over the last 20 years. A summary of SAV initiatives taken by the Commission's state and federal partners is also included in this updated policy.

## Preface

The Atlantic States Marine Fisheries Commission (Commission) was formed in 1942 as a means to conserve and enhance interjurisdictional fisheries of the Atlantic coast. The Commission and its 15 member states and associated jurisdictions which also serve on the Commission's Policy Board (District of Columbia, National Marine Fisheries Service, Potomac River Fisheries Commission, and U.S. Fish and Wildlife Service) recognize that marine fisheries cannot be adequately managed without due consideration for marine fish habitat; however, the Commission does not have the capability to regulate marine fish habitat or activities other than fishing that may cause adverse impacts. Under these circumstances, the Commission recognizes that it is imperative to collaborate with the state and federal agencies that hold such authority, and equip them with the recommendations and guidance necessary to help provide for the conservation of healthy marine fish habitat.

Submerged aquatic vegetation (SAV) comprise some of the most productive ecosystems in the world (Orth et al. 2006a). SAV is significantly important to many Commission managed fish species, and afforded different degrees of protection up and down the coast. In 1997, the Commission's Habitat Committee developed a policy (ASMFC 1997) to communicate the need for conservation of coastal SAV resources, and highlight state and Commission-based activities for implementation of a coastal SAV conservation and enhancement program. This policy was modeled after a similar policy prepared by the Chesapeake Bay Program (Chesapeake Executive Council 1989), and background information relied heavily on the Commission's publication *Atlantic Coastal Submerged Aquatic Vegetation: a Review of its Ecological Role, Anthropogenic Impacts, State Regulation, and Value to Atlantic Coastal Fisheries* (Stephan and Bigford 1997). The intent of the original policy was not to hold marine fisheries agencies accountable for the suggested state activities, but rather to efficiently communicate the goals of the policy to the agencies or organizations that can best carry out the prescribed activities, and encourage the participation of these agencies in achieving policy goals.

In 2017, 20 years after the original policy was released, the Habitat Committee re-evaluated its recommendations and importance. Upon review, it was determined that the policy is still relevant, and arguably more important now than ever due to new or intensifying threats that could reduce water quality or damage beds, such as aquaculture and coastal development (Short et al. 2011, Lefcheck et al. 2017). Our objective is to provide updates to the scientific research and management issues, including emerging issues over the past 20 years. The goals of the original policy are still valid, but have been revised to meet the needs of the 21<sup>st</sup> century.

## **Introduction**

### **Background**

Submerged aquatic vegetation or SAV systems, which include both true seagrasses in saline regions and freshwater angiosperms that have colonized lower salinity regions of estuaries, are among the most productive ecosystems in the world (Orth et al. 2006a). They perform a number of irreplaceable ecological functions, which range from chemical cycling and physical modification of the water column and sediments, to providing food and shelter for commercial, recreational, as well as ecologically important organisms, and are especially critical for juvenile development of many fish and invertebrate species (Thayer et al. 1997, Heck et al. 2003, Ralph et al. 2013). Due in part to their status as a nursery habitat, SAV is also a key linkage among not only other marine ecosystems, but terrestrial ones as well (Heck et al. 2008). All ASMFC managed species utilize SAV for refuge, attachment, spawning, food, or prey location for at least part of their life cycle, with the possible exception of Jonah crab and Northern shrimp (data from Kritzer et al. 2016).

The Commission established a policy on SAV in 1997 because of the important role SAV plays in the habitat of Commission-managed species. Both marine and freshwater SAV is covered by the policy because some managed species utilize both during their ontogenetic development. Both natural events and human activities (including climate change) can threaten local and regional SAV health and abundance, and result in impacts to fisheries. SAV loss has been reported worldwide (Orth et al. 2006a, Waycott et al. 2009) and in most Atlantic coastal states (see 'SAV Efforts by Atlantic Coast States and Federal Partners since the Policy was Released' below). Some reasons for the decline, including water quality degradation, are pervasive threats along the coast. Certain regions have a fraction of historic SAV coverage. For example, the Chesapeake Bay saw declines in all species in all areas of the bay in the early 1970s (Orth and Moore 1983, Orth et al. 2002a). In 1993, researchers identified the main influencers on SAV abundance and distribution: water clarity, suspended sediments, nitrogen, phosphorus, and chlorophyll *a* (Dennison et al. 1993). Since then, managers have been using these indicators for specific water quality targets. They also have a goal of restoring a total of 75,000 acres of SAV in the Chesapeake Bay by 2025 (Orth et al. 2017). Conservation measures have also slowed, and in some cases reversed, SAV decline in other locations, including parts of Florida (SAFMC 2014).

The Commission encouraged implementation of the original policy by state, federal, local, and cooperative programs which influence and regulate fish habitat and activities impacting fish habitat; specifically SAV. The development of the original policy was overseen by the Commission's Habitat Committee, with scientific guidance from experts in the field of SAV ecology. This version of the SAV policy was updated by distributing the 1997 policy to SAV and habitat experts and incorporating their changes. The final draft was approved by the Habitat Committee (date) and by the Policy Board (date).

### **Definition of Submerged Aquatic Vegetation**

SAV refers to rooted, vascular, flowering plants that, except for some flowering structures, live and grow below the water surface. Because of their requirements for sufficient sunlight, seagrasses are found in shallow coastal areas of all Atlantic coastal states, with the exception of Georgia and South Carolina, where freshwater inflow, high turbidity and tidal amplitude combine to inhibit their growth. SAV growth is seasonal, and during winter months, leaf blades may not be present. Therefore SAV habitat may be characterized by the presence of rhizomes, roots, leaves, or reproductive structures. Mapping and surveying during the active growing season enhances the ability to identify SAV habitat.

There are at least 13 species of seagrasses common in US waters to which this definition of SAV and these

policies may apply. In the New England and northern Mid-Atlantic regions, eelgrass (*Zostera marina*) dominates, with two other species also occurring – widgeon grass (*Ruppia maritima*) and, from North Carolina southward, Cuban shoalgrass (*Halodule wrightii*). South towards Florida, turtlegrass (*Thalassia testudinum*) and manatee grass (*Syringodium filiforme*) become dominant along with Cuban shoalgrass and several species of *Halophila*. One species of *Halophila*, Johnson’s seagrass (*H. johnsonii*), was listed as threatened in 1998. Its critical habitat was designated in 2000, and in 2002 the National Oceanic and Atmospheric Administration (NOAA) published a recovery plan for the species<sup>1</sup>. Widgeon grass (*Ruppia maritima*) which can tolerate both fresh and saltwater, has the broadest range of all species (Orth 1997).

Approximately 20 – 30 species of freshwater macrophytes may be found in the tidal freshwater and low salinity areas of the estuaries of the eastern United States. These lower salinity communities can be quite diverse, with as many as 10 species co-occurring at a single location. Wild celery (*Vallisneria americana*), redhead grass (*Potamogeton perfoliatus*), sago pondweed (*P. pectinatus*), horned pondweed (*Zannichellia palustris*), common elodea (*Elodea canadensis*), coontail (*Ceratophyllum demersum*), and southern naiad (*Najas quadalupensis*) are a few of the native species that will dominate these areas while two non-native (invasive) species, milfoil (*Myriophyllum spicatum*) and hydrilla (*Hydrilla verticillata*), will also be found in many areas.

This update and the original policy acknowledge that there will be situations where it may be appropriate to undertake control measures for invasive species. However, where native species have been eliminated and invasive species are of functional value it may be more appropriate to protect the invasive species from development activities (e.g. see Ramus et al. 2017). These situations should be evaluated on a case-by-case basis.

### **SAV Efforts by Atlantic Coast States and Federal Partners since the Policy was Released**

In 2017, the Habitat Program Coordinator sent out a survey asking each partner a series of questions based on the goals and components of the original policy statement (results in Figure 1).

Of the eleven states that have marine seagrass within their borders and responded to the survey, seven of the eleven have implemented a resource assessment and monitoring strategy to quantitatively evaluate SAV distribution and abundance. One state is currently in the process of developing an assessment. Ten states have put measures in place to limit permanent and irreversible direct and indirect impacts to SAV and their habitats. Evaluation of the effectiveness of these measures has been mixed along the coast. Three states have carried out an evaluation and five have not. Two states have evaluations in development, and one state has conducted an evaluation in the past, but is not currently doing so. Fifty-five percent of states have set restoration goals, whereas 45% have not. Most (81%), however, have identified the key reasons for SAV loss in their state. Seven states have identified suitable areas for protection and restoration, and two are in the process of doing so. One state has not, and one identifies areas as needed. All states either incorporate SAV education in their outreach or citizen science programs, either directly or via other entities (such as National Estuarine Research Reserves). Most states have also supported SAV research and follow specific Best Management Practices (10 and 8 states, respectively).

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<sup>1</sup> <http://www.fisheries.noaa.gov/pr/species/plants/johnsons-seagrass.html>

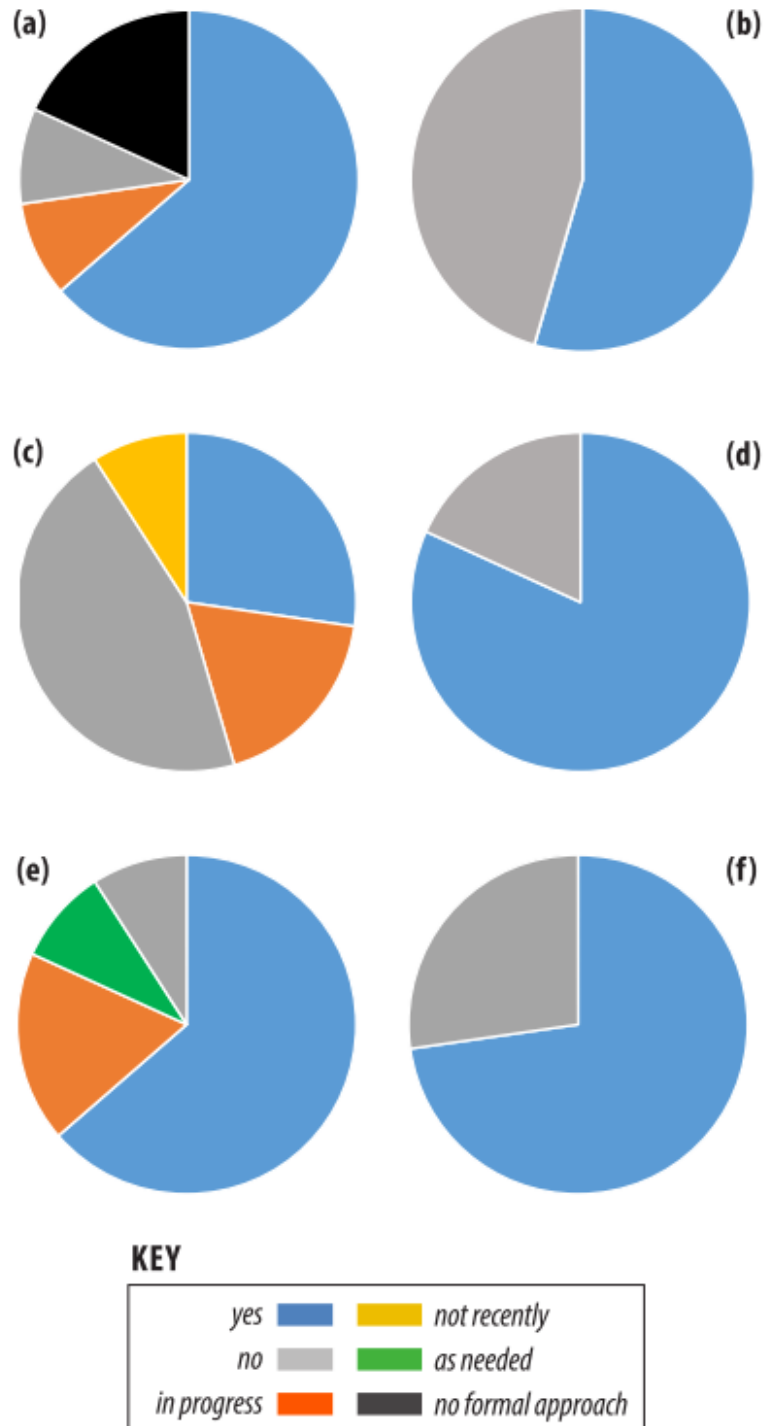


Figure 1. State responses to the following questions: (a) Has your state implemented an SAV resource management assessment and monitoring strategy? (b) Has your state set restoration goals? (c) Has your state reviewed the effectiveness of their assessment and monitoring programs? (d) Has your state identified reasons for loss and/or addressed the need for SAV improvement? (e) Has your state identified areas for protection or restoration? (f) Does your state follow specific Best Management Practices?

Most of the federal partners do not have regulatory authority pertaining to SAV, but do serve in an advisory role and can designate specific SAV areas as protected. More than half have developed technical guidance or SAV standards, and promote Best Management Practices. While they have not implemented the Commission’s SAV Policy, most have implemented other, similar policies to protect SAV.

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## **Policy Statement**

### **Goal**

The Habitat Committee found that the original goals are still relevant today, and have left them largely unchanged from the 1997 version. The primary goal is to preserve, conserve, and restore SAV where possible, in order to achieve a net gain in distribution and abundance along the Atlantic coast and tidal tributaries, and to prevent any further losses of SAV in individual states by encouraging the following:

1. Protect existing SAV beds from further losses due to degradation of water quality, physical destruction to the plants, or disruption to the local benthic environment;
2. Continue to promote state or regional water and habitat quality objectives that will result in restoration of SAV through natural re-vegetation;
3. Continue to promote, develop, attain, and update as needed, state SAV restoration goals in terms of acreage, abundance, and species diversity, considering historical distribution records and estimates of potential habitat.
4. Continue to promote SAV protection at local, state and federal levels and when unavoidable impacts to SAV occur from permitted coastal alterations or other unintended actions, agencies should implement compensatory mitigation for the functional and temporal impacts.

There are six key components to achieving the goal of this policy: 1) Assessment of historical, current and potential distribution and abundance of SAV; 2) Protection of existing SAV; 3) SAV Restoration and Enhancement; 4) Public Education and Involvement; 5) Research; and 6) Implementation.

### **I. Assessing the Resource**

Determining current status and identifying trends in health and abundance are key factors in management of SAV resources. In an effort to develop consistent monitoring techniques among regions, SAV mapping protocols have been identified by NOAA's Coastal Change Analysis Program (C-CAP, Dobson et.al. 1995), and updated in 2001 (NOAA 2001).

### **Policy:**

At a minimum, each member state should ensure the implementation of an SAV resource assessment and monitoring program which will provide a continuing quantitative evaluation of SAV distribution and abundance and the supporting environmental parameters. The optimal coast-wide situation would be a monitoring system which would establish consistent monitoring techniques among regions so that the data are comparable. For example, SeagrassNet is used at several locations along the Atlantic coast and other areas worldwide to assess trends in health of discrete SAV beds using comparable techniques. In addition to evaluating distribution and abundance, monitoring should also evaluate trends in the overall health of existing SAV beds.

### **Action:**

*ASMFC*: Support (financially, politically, or through the sharing of resources and information) and promote states to adopt an SAV mapping and monitoring plan. Assessment and data collection should have relevant



metrics and scales to inform specific management questions and goals (Bernstein et al. 2011, Neckles et al. 2012, Roca et al. 2016). When possible, promote universal metrics for monitoring along the coast to allow for inter-state comparisons.

*States:* ASMFC members should encourage their appropriate state agencies or departments to implement regular statewide or regional SAV monitoring programs which will identify changes in SAV health and abundance cumulatively on a coast-wide basis if they are not already doing so (see 'SAV Efforts by Atlantic Coast States and Federal Partners since the Policy was Released' above for more information). Surveys should minimally be on a five year basis, and preferably annually, for areas considered to be especially at risk of severe declines from anthropogenic activities, disease, or other factors. Aerial images captured from a plane allow for standard comparability across regions, if resources allow. A good map provides spatial extent and rough approximations of density. However, aerial-based assessment results can vary considerably based on image quality, SAV bed plant densities, visual signature interpretation and extent of surface level verification. Above ground biomass (e.g., shoot density and canopy height) from sentinel beds can allow for a closer look at plant health and bed dynamics.

## **II. Protection of Existing Submerged Aquatic Vegetation**

A concerted effort should be made to protect those areas where SAV currently exists since it is problematic to successfully restore or mitigate SAV losses. Impacts which result in losses of SAV such as direct alterations to a vegetated area or indirect actions within a watershed should be minimized. Primary causes of SAV loss include navigational dredging, filling, and reduced water clarity due to runoff from development and agriculture. Shading from docks, propeller dredging from boating, and bottom disturbing fishing gear also contribute to SAV loss (e.g. Orth et al. 2002b).

While there have been numerous documented restoration successes, there have been just as many or more failures. Therefore protection and conservation are much more assured and cost effective approaches to the preservation of SAV. Because SAV requirements for growth and survival are stringent, controlling the type, extent, intensity, and duration of impacts to SAV will further other efforts to restore and protect coastal fish habitat.

Since the original policy was released SAV has been facing emerging issues including a boom in the installation of new boat mooring areas and significant increases in shellfish aquaculture in shallow coastal waters, both of which can conflict with the conservation of SAV. This is especially true for shellfish aquaculture. Aquaculture has the potential for conflicts that requires careful ocean planning, and siting should not occur in current or adjacent to seagrass beds. Climate change is also expected to have an effect on SAV distribution and abundance as water temperature, salinity, and water depth change.

### **Policy:**

Member states and federal partners should use existing regulatory, proprietary, and resource management programs, and in addition, develop new programs, to limit permanent and irreversible, direct, and indirect impacts to SAV and their habitats.

### **Action:**

*ASMFC, States, and Federal Partners:* Review and evaluate the effectiveness of existing administrative procedures, regulatory, proprietary, and resource management programs to protect existing SAV and their habitats. This includes: fishing impacts; aquaculture; dredging; water quality standards; dock placement; marina expansion and vessel impacts such as elevated wakes, suspended sediments, placement and

maintenance of moorings, direct impacts from hulls, propellers, and personal watercraft; runoff from development and agriculture; and compensatory mitigation.

*ASMFC:* 1) Support and promote the development of water quality standards by the Environmental Protection Agency and member states that can be implemented to protect SAV habitat (i.e. light attenuation, total suspended solids, chlorophyll *a*, dissolved inorganic nitrogen, dissolved inorganic phosphorus, critical life period).

2) In partnership with NOAA Fisheries and U.S. Fish and Wildlife Service, develop technical guidelines and standards to objectively evaluate fishing gear, propeller scarring, dredging, coastal construction, and bottom fishing impacting, and develop standard mitigation strategies.

*States:* 1) ASMFC members should propose improvements necessary in state regulation and management including conditions pertaining to harvesting shellfish or finfish in SAV beds by use of mechanical means and the placement and operations of aquaculture activities to protect existing SAV beds.

2) Encourage state agencies or departments with jurisdiction over construction activities to propose improvements necessary in state regulation and management of SAV habitats based on the standards developed in the above actions.

### **III. Restoration of Submerged Aquatic Vegetation**

In addition to protecting existing SAV habitat, restoration of former habitat should improve the likelihood of achieving an overall net gain. In cases where monitoring assessments show SAV is in decline due to poor environmental quality, sufficient environmental quality standards must be attained before restoration can occur. Planning will induce maximum restoration program effectiveness. Even with adequate environmental quality, SAV restoration is challenging due to predators, human impacts, and the risk of newly planted shoots to uproot easily. Good planning and use of scientifically-based restoration protocols will help ensure success where environmental conditions warrant. Examples of tools and protocols include habitat suitability models (Vaudrey et al. 2013), site-specific planning and testing (Leschen et al. 2010), and restoration strategies (Orth et al. 2006b, van Katwijk et al. 2016). To be successful, water quality conditions that historically and currently support SAV should be compiled regionally and used to identify potential SAV restoration sites.

#### **Policy:**

Protection is preferred over restoration. Restoration programs should include establishment of habitat quality necessary for SAV prior to restoration. Restoration methods should incorporate scientifically based protocols. Restoration goals should consider potential and historical SAV spatial footprint.

#### **Action:**

*ASMFC, States, and Federal Partners:* ASMFC should partner with/promote/support other state and federal agencies, departments, NGOs, universities, and other entities to support SAV restoration activities. ASMFC members should contribute or take the lead on setting state restoration goals for SAV acreage, and providing literature and best management practices to state and federal agencies.

*States:* ASMFC members should encourage their appropriate state agency or department to set regional or state restoration goals for SAV acreage, abundance, and species diversity considering historical records of abundance and distributions and estimates of potential habitat. Identify reasons for losses, and address any need for habitat improvement prior to restoration. Based on scientific protocols, identify areas currently suitable for SAV restoration, and consider them for protection and future use, or immediate use in restoration projects. Implement scientifically-based transplanting and planting protocols, and support their use by other

organizations.

#### IV. Public Education and Involvement

An informed and involved public will provide a firm foundation of support for SAV protection and restoration efforts. Education and involvement is an important facet of increasing public awareness and stewardship (e.g., Figure 2).



Figure 2. Seagrass habitat conservation signage in Jamestown, Rhode Island. Photo and sign courtesy of the Atlantic Coastal Fish Habitat Partnership.

#### Policy:

ASMFC and member states should promote and support public education and stewardship programs that will increase the public’s knowledge of SAV, its importance as fish habitat, and commitment to SAV conservation.

#### Action:

*ASMFC, States, and Federal Partners:* ASMFC in coordination with member States, federal agencies, and non-profits will promote and support the improvement of policy maker and public understanding of the value, habitat requirements, status, significant threats, cumulative human impacts, and trends in abundance of SAV. States should include this information in their aquatic education programs.

*State:* ASMFC members should encourage their appropriate state agency or department to promote the involvement of citizen’s groups in activities such as groundtruthing of remotely sensed and mapped SAV locations; water quality monitoring programs; reporting of impacts, especially cumulative impacts such as dock and pier expansions; losses or perturbations; and SAV restoration and protection activities. One way to aid in increasing awareness would be to share area maps online (preferably not requiring ArcGIS user capabilities).

#### V. Scientific Research

Through scientific research, we will improve our knowledge and understanding of SAV to ensure that efforts to protect and restore the resource will be effective. Further information on growth, physiology, reproduction, genetics, life cycles, disease, transplanting (successes and failures), environmental requirements, and anthropogenic impacts is needed to protect and restore SAV.

**Policy:**

ASMFC and member states should promote and support those research projects which will improve our knowledge of SAV and its benefits as fish habitat.

**Action:**

*ASMFC, States, and Federal Partners:* On a coast wide basis, support research financially, politically, and through data and results sharing in the following areas:

- 1) The relationship between SAV and the environmental quality of fish habitat and the relative importance of SAV to other, high quality habitat types. This should include the development of specific habitat functions of SAV (e.g. spawning, feeding, growth, refuge), taking into consideration the benefits to managed fish species across their ranges.
- 2) Improving methodologies for SAV transplanting and restoration techniques, and determine the ecological functioning of transplanted vs. naturally vegetated areas.
- 3) Improving our understanding of the relationships between SAV and managed fish species, including fishery production patterns associated with different landscape or bed forms and sizes within the context of location within the system, as well as the influence of human disturbance and consequences of altering seagrass landscapes vis-à-vis fragmentation and isolation.
- 4) The specific physical requirements for SAV survival, on a regional basis, as well as the effects of eutrophication, sediment loading, indirect (pesticides) and direct (herbicides) impacts to epiphyte grazers, disease, physical disturbance, climate change (e.g., respiratory stress from increased temperatures), and natural perturbations on growth and survival of SAV. Efforts should be made to identify the primary threat(s) to SAV health in each locale. This will help identify potential sites for SAV restoration.
- 5) The effects of reduced genetic diversity and difference in physiology (e.g. annual vs. perennial, below-ground biomass) on the ability of seagrass populations to survive habitat alterations. Research should also identify regional differences in SAV requirements.
- 6) The potential effect of climate change on SAV, including range expansion and contraction, temperature tolerance, susceptibility to disease, etc.

**VI. Policy Implementation  
Habitat Program**

This policy was distributed to all Commissioners and other interested persons for use in promoting local and regional protection of SAV. The Commission's federal partners, including the U.S. Fish and Wildlife Service and NOAA Fisheries, were encouraged to adopt and implement this policy. Other federal agencies, such as the U.S. Army Corps of Engineers and the Environmental Protection Agency, were briefed on the policy, and encouraged to adopt it as well.

The Commission will continue to progress in its commitment to facilitate communication among local, state, and federal fishery and habitat managers, as well as assist marine fisheries agencies in transmitting this updated policy to habitat protection agencies (Appendix I).

### **Fishery Management Planning**

Under the Atlantic Coastal Fisheries Cooperative Management Act, the Commission may require that states implement certain facets of fishery management plans, termed “compliance criteria.” The following is a list of compliance criteria which the Commission will continue to consider for adoption in fishery management plans (FMP) for species with demonstrated reliance on SAV habitat (Laney 1997):

- 1) Preparation of an annual status report by each state and federal partner on implementation of each aspect of the policy.
- 2) Transmission of the policy by each state and federal partner to all agencies with habitat regulatory and management authority or organizations which can have a significant positive or negative impact on SAV.
- 3) Preparation of state plans to identify fishing gear and practices employed by any state regulated fishery which may negatively impact SAV; and development and implementation of strategies to eliminate negative impacts identified pursuant to Section II where appropriate to achieve SAV objectives.

In addition, the policy should continue to be incorporated by reference into FMPs for species with demonstrated reliance on SAV habitat. These FMPs should include background information on the importance of SAVs, and recommendations which parallel the prescribed activities of the policy.

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## Literature Cited and Additional References

Atlantic States Marine Fisheries Commission. 1997. Submerged Aquatic Vegetation Policy. ASMFC, Washington, DC. Habitat Management Series #3 p. 1- 9.

Bernstein, B., K. Merkel, B. Chesney and M. Sutula. 2011. Recommendations for a Southern California Regional Eelgrass Monitoring Program. Technical Report 639. Prepared for the National Marine Fisheries Service. Southern California Coastal Water Research Project, Costa Mesa, California.

Chesapeake Executive Council. 1989. Submerged Aquatic Vegetation Policy for the Chesapeake Bay and Tidal Tributaries. Chesapeake Bay Program, Annapolis, Maryland. Agreement Committee Report. 12 pp.

Dennison, W.C., R.J. Orth, K.A. Moore, J.C. Stevenson, V. Carter, S. Kollar, P. Bergstrom and R.A. Battuk. 1993. Assessing water quality with submersed aquatic vegetation. *BioScience* 43: 86 – 94.

Dobson, J.E., E.A. Bright, R.L. Ferguson, D.W. Field, L.L. Wood, K.D. Haddad, H. Iredale III, J.R. Jensen, V.V. Klemas, R.J. Orth and J.P. Thomas. 1995. NOAA Coastal Change Analysis Program (C-CAP): Guidance for Regional Implementation. NOAA Technical Report NMFS 123. 92 pp.

Ernst, L.M. and C.D. Stephan. 1997. State regulation and management of submerged aquatic vegetation along the Atlantic coast of the United States. In Stephan, C.D. and T.E. Bigford, editors, *Atlantic Coastal Submerged Aquatic Vegetation: a review of its ecological role, anthropogenic impacts, state regulation and value to Atlantic coastal fisheries*. ASMFC, Washington, DC. Habitat Management Series #1 p. 42 – 54.

Goldsborough, W.J. 1997. Human impacts on SAV: a Chesapeake Bay case study. In Stephan, C.D. and T.E. Bigford, editors, *Atlantic Coastal Submerged Aquatic Vegetation: a review of its ecological role, anthropogenic impacts, state regulation and value to Atlantic coastal fisheries*. ASMFC, Washington, DC. Habitat Management Series #1 p. 38 – 41.

Heck Jr., K.L., T.J.B. Carruthers, C.M. Duarte, A.R. Hughes, G. Kendrick, R.J. Orth and S.W. Williams. 2008. Trophic transfers from seagrass meadows subsidize diverse marine and terrestrial consumers. *Ecosystems* 11(7): 1198 – 1210.

Heck Jr., K.L., G. Hays and R.J. Orth. 2003. Critical evaluation of the nursery role hypothesis for seagrass meadows. *Marine Ecology Progress Series* 253: 123 – 136.

Kritzer, J.P., M.B. DeLucia, E. Greene, C. Shumway, M.F. Topolski, J. Thomas-Blate, L.A. Chiarella, K.B. Davy and K. Smith. 2016. The importance of benthic habitats for coastal fisheries. *BioScience* 66(4): 274-284.

Laney, R.W. 1997. The relationship of seagrass ecological value to species managed by the ASMFC: a summary for the ASMFC Submerged Aquatic Vegetation Subcommittee. In Stephan, C.D. and T.E. Bigford, editors, *Atlantic Coastal Submerged Aquatic Vegetation: a review of its ecological role, anthropogenic impacts, state regulation and value to Atlantic coastal fisheries*. ASMFC, Washington, DC. Habitat Management Series #1 p. 13 – 37.

Lefcheck, J.S., D.J. Wilcox, R.R. Murphy, S.R. Marion and R.J. Orth. 2017. Multiple stressors threaten the

imperiled coastal foundation species eelgrass (*Zostera marina*) in Chesapeake Bay, USA. *Global Change Biology* 23(9): 3474 – 3483.

Leschen, A. S., K.H. Ford and N.T. Evans. 2010. Successful eelgrass (*Zostera marina*) restoration in a formerly eutrophic estuary (Boston Harbor) supports the use of a multifaceted watershed approach to mitigating eelgrass loss. *Estuaries and Coasts* 33(6): 1340 – 1354.

Mid-Atlantic Fishery Management Council. Council Policy on Coastal Development. MAFMC, Dover, Delaware. [https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/56719bc325981df7cbc60931/1450286019198/Policy\\_CoastalDevelopment\\_2015-12-15.pdf](https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/56719bc325981df7cbc60931/1450286019198/Policy_CoastalDevelopment_2015-12-15.pdf).

Mid-Atlantic Fishery Management Council. Council Policy on Impacts of Fishing Activities on Fish Habitat. MAFMC, Dover, Delaware. <https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/57c74176b8a79b8ea1117f4b/1472676215693/Fishing+Impacts+Policy+16-08-12+Final.pdf>.

Mid-Atlantic Fishery Management Council. General Council Policies on Non-Fishing Activities and Projects. MAFMC, Dover, Delaware. [https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/56719afc57eb8da060171ac4/1450285820790/Policy\\_General\\_2015-12-15.pdf](https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/56719afc57eb8da060171ac4/1450285820790/Policy_General_2015-12-15.pdf).

North Carolina Department of Environmental Quality. 2016. North Carolina Coastal Habitat Protection Plan. NCDEQ, Morehead City, North Carolina. Division of Marine Fisheries. 33 pp.

Neckles, H.A., B.S. Kopp, B.J. Peterson and P.S. Pooler. 2012. Integrating scales of seagrass monitoring to meet conservation needs. *Estuaries and Coasts* 35(1): 23 – 46.

NOAA Coastal Services Center. 2001. Guidance for Benthic Habitat Mapping: An Aerial Photographic Approach by Mark Finkbeiner [and by] Bill Stevenson and Renee Seaman, Technology Planning and Management Corporation, Charleston, South Carolina. (NOAA/CSC/20117-PUB).

Orth, R.J. 1997. Personal Communication. Virginia Institute of Marine Science.

Orth, R.J., R.A. Batiuk, P.W. Bergstrom and K.A. Moore. 2002a. A perspective on two decades of policies and regulations influencing the protection and restoration of submerged aquatic vegetation in Chesapeake Bay, USA. *Bulletin of Marine Science* 71(3): 1391 – 1403.

Orth, R.J., T.J.B. Carruthers, W.C. Dennison, C.M. Duarte, J.W. Fourqurean, K.L. Heck Jr., A.R. Hughes, G.A. Kendrick, W.J. Kenworthy, S. Olyarnik, F.T. Short, M. Waycott and S.L. Williams. 2006a. A global crisis for seagrass ecosystems. *BioScience* 56(12): 987 – 996.

Orth, R.J., W.C. Dennison, J.S. Lefcheck, C. Gurbisz, M. Hannam, J. Keisman, J.B. Landry, K.A. Moore, R.R. Murphy, C.J. Patrick, J. Testa, D.E. Weller and D.J. Wilcox. 2017. Submersed aquatic vegetation in Chesapeake Bay: sentinel species in a changing world. *BioScience* 67(8): 698 – 712.

Orth, R.J., J.R. Fishman, D.J. Wilcox and K.A. Moore. 2002b. Identification and management of fishing gear impacts in a recovering seagrass system in the coastal bays of the Delmarva Peninsula, USA. *Journal of Coastal Research* SI(37): 111 – 129.

Orth, R.J., M.L. Luckenbach, S.R. Marion, K.A. Moore and D.J. Wilcox. 2006b. Seagrass recovery in the Delmarva coastal bays, USA. *Aquatic Botany* 84: 26 – 36.

Orth, R.J. and K.A. Moore. 1983. Chesapeake Bay: An unprecedented decline in submerged aquatic vegetation. *Science* 222: 51 – 53.

Orth, R.J., J.F. Nowak, G.F. Anderson, D.J. Wilcox, J.R. Whiting and L.S. Nagey. 1996. Distribution and abundance of submerged aquatic vegetation in the Chesapeake Bay - 1995. Final Report. USEPA Chesapeake Bay Program. Annapolis, MD. 293 pp.

Ralph, G.M., R.D. Seitz, R.J. Orth, K.E. Knick and R.N. Lipcius. 2013. Broad-scale association between seagrass cover and juvenile blue crab density in Chesapeake Bay. *Marine Ecology Progress Series* 488(51): 51 – 63.

Ramus, A.R., B.R. Silliman, M.S. Thomsen and Z.T. Long. 2017. An invasive foundation species enhances multifunctionality in a coastal ecosystem. *Proceedings of the National Academy of Sciences* 114(32): 8580 – 8585.

Roca, G., T. Alcoverro, D. Krause-Jensen, T. Balsby, M. van Katwijk, N. Marbà and J. Romero. 2016. Response of seagrass indicators to shifts in environmental stressors: a global review and management synthesis. *Ecological Indicators*, 63310-323. doi:10.1016/j.ecolind.2015.12.007

Short, F.T., B. Polidoro, S.R. Livingstone, K.E. Carpenter, S. Bandeira, J.S. Bujang, H.P. Calumpong, T.J.B. Carruthers, R.G. Coles, W.C. Dennison, P.L.A. Erftemeijer, M.D. Fortes, A.S. Freeman, T.G. Jagtap, A.H.M. Kamal, G.A. Kendrick, W.J. Kenworthy, Y.A. La Nafie, I.M. Nasution, R.J. Orth, A. Prathep, J.C. Sanciangco, B. van Tussenbroek, S.G. Vergara, M. Waycott and J.C. Zieman. 2011. Extinction risk assessment of the world's seagrass species. *Biological Conservation* 144: 1961 – 1971.

South Atlantic Fishery Management Council. 2014. SAFMC Policy for Protection and Enhancement of Estuarine and Marine Submerged Aquatic Vegetation (SAV) Habitat. SAFMC, North Charleston, South Carolina. <http://cdn1.safmc.net/wp-content/uploads/2016/11/28102847/SAFMCSAVPolFinalJune14.pdf>

Stephan, C.D. and T.E. Bigford (editors). 1997. Atlantic Coastal Submerged Aquatic Vegetation: a review of its ecological role, anthropogenic impacts, state regulation and value to Atlantic coastal fisheries. ASMFC, Washington, DC. Habitat Management Series #1 62 pp. plus appendices.

Thayer, G.W., M.S. Fonseca and J.W. Kenworthy. 1997. Ecological value of seagrasses: a brief summary for the ASMFC Habitat Committee's SAV Subcommittee. In Stephan, C.D. and T.E. Bigford, editors, Atlantic Coastal Submerged Aquatic Vegetation: a review of its ecological role, anthropogenic impacts, state regulation and value to Atlantic coastal fisheries. ASMFC, Washington, DC. Habitat Management Series #1 p. 7 – 12.

van Katwijk, M.M., A. Thorhaug, N. Marbà, R.J. Orth, C.M. Duarte, G.A. Kendrick, I.H.J. Althuisen, E. Balestri, G. Bernard, M.L. Cambridge, A. Cunha, C. Durance, W. Giesen, Q. Han, S. Hosokawa, W. Kiswara, T. Komatsu, C. Lardicci, K.S. Lee, A. Meinesz, M. Nakaoka, K.R. O'Brien, E.I. Paling, C. Pickerell, A.M.A. Ransijn and J.J. Verduin. 2016. Global analysis of seagrass restoration: the importance of large-scale planting. *Journal of Applied Ecology* 53: 567 – 578. doi:10.1111/1365-2664.12562



Vaudrey, J.M.P., J. Eddings, C. Pickerell, L. Brousseau and C. Yarish. 2013. Development and Application of a GIS-based Long Island Sound Eelgrass Habitat Suitability Index Model. Final report submitted to the New England Interstate Water Pollution Control Commission and the Long Island Sound Study. 171 pp. plus appendices.

Waycott, M., C.M. Duarte, T.J.B. Carruthers, R.J. Orth, W.C. Dennison, S. Olyarnik, A. Calladine, J.W. Fourqurean, K.L. Heck Jr., A.R. Hughes, G.A. Kendrick, W.J. Kenworthy, F.T. Short and S.L. Williams. 2009. Accelerating loss of seagrasses across the globe threatens coastal ecosystems. *Proceedings of the National Academy of Sciences* 106(30) 12377 – 12381.

DRAFT

## Appendix I Points of Contact Responsible for Regulating SAV

### Maine

#### *Saltwater SAV*

Deirdre Gilbert, [Deirdre.gilbert@maine.gov](mailto:Deirdre.gilbert@maine.gov)

#### *Freshwater SAV*

Chandler E. Woodcock, 1-800-452-4664

### New Hampshire

#### *Saltwater SAV*

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#### *Freshwater SAV*

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### Massachusetts

#### *DEP Wetlands Protection Program*

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#### *DMF Eelgrass Project*

Tay Evans, [Tay.Evans@state.ma.us](mailto:Tay.Evans@state.ma.us)

### Rhode Island

#### *RI DEM*

Eric Schneider, [Eric.Schneider@dem.ri.gov](mailto:Eric.Schneider@dem.ri.gov)

#### *RI CRMC*

Caitlin Chaffee, [cchaffee@crmc.ri.gov](mailto:cchaffee@crmc.ri.gov)

### Connecticut

Connecticut Department of Energy & Environmental Protection (DEEP), 860-424-3000

### New York

Soren Dahl, [Soren.Dahl@dec.ny.gov](mailto:Soren.Dahl@dec.ny.gov)

### New Jersey

Kira Dacanay, [Kira.Dacanay@dep.nj.gov](mailto:Kira.Dacanay@dep.nj.gov)

### Maryland

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### Virginia

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### North Carolina

#### *Saltwater SAV*

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*Freshwater SAV*

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South Carolina

*Nuisance Species Program*

Chris Page, [PageC@dnr.sc.gov](mailto:PageC@dnr.sc.gov)

Florida

*Environmental Resource Permitting*

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*Aquatic Preserve Program*

Becky Prado, [Rebecca.Prado@dep.state.fl.us](mailto:Rebecca.Prado@dep.state.fl.us)

*Florida State Parks*

Lisa Edgar, [Lisa.Edgar@dep.state.fl.us](mailto:Lisa.Edgar@dep.state.fl.us)

*Scientific Permits and Saltwater Products Licenses*

Lisa Gregg, [Lisa.Gregg@myfwc.com](mailto:Lisa.Gregg@myfwc.com)

*ERP and Coastal Zone Management*

Jennifer Goff, [Jennifer.Goff@myfwc.com](mailto:Jennifer.Goff@myfwc.com)

*Aquatic Plant Control Permitting*

Rob Kipker, [Rob.Kipker@myfwc.com](mailto:Rob.Kipker@myfwc.com)

*Commercial Importation Transportation, Non-Nursery Cultivation and Collection*

Anderson Rackley, [Andy.Rackley@freshfromflorida.com](mailto:Andy.Rackley@freshfromflorida.com)

*Aquaculture*

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**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
GREATER ATLANTIC REGIONAL FISHERIES OFFICE  
55 Great Republic Drive  
Gloucester, MA 01930-2276

OCT 20 2017

Robert E. Beal  
Executive Director  
Atlantic States Marine Fisheries Commission  
1050 N. Highland Street, Suite 200 A-N  
Arlington, VA 22201

**Re: Reinitiating Section 7 Consultation on the Batched Fisheries, American Lobster, and Atlantic Deep-Sea Red Crab Biological Opinions and associated Fishery Management Plans**

Dear Mr. Beal:

On December 16, 2013, under the Endangered Species Act, NOAA Fisheries' (NMFS) Greater Atlantic Regional Fisheries Office, Protected Resources Division (PRD) completed formal consultation and issued a biological opinion (Batched Fisheries BiOp) for the following fishery management plans (FMPs): Northeast multispecies, monkfish, spiny dogfish, Northeast skate complex, Atlantic mackerel/squid/butterfish, Atlantic bluefish, and summer flounder/scup/black sea bass. In addition to these fisheries, we completed formal consultation and issued BiOps on the Atlantic Deep-Sea Red Crab FMP on February 6, 2002 and on the Interstate Fishery Management Plan for American Lobster (ISFMP) on July 31, 2014. These BiOps determined that the continued operation of these fisheries was not likely to jeopardize the continued existence of any ESA-listed species or destroy or adversely modify designated critical habitats of such species under our jurisdiction.

On September 18, 2017, new information was made available that indicates that the North Atlantic right whale abundance has been in decline since 2010 (Pace III RM, Corkeron PJ, Kraus SD. State-space mark-recapture estimates reveal a recent decline in abundance of North Atlantic right whales. *Ecol Evol.* 2017;00:1–12.). The information regarding the decline in abundance is different from the information on the status of right whales that was analyzed in the previous BiOps listed above and may reveal effects from the fisheries analyzed in the BiOps that may not have been previously considered.

We have determined that reinitiation of formal consultation on the fisheries covered by the ISFMP and the Batched Fisheries and Red Crab FMPs is required due to new information regarding the changed status of right whales, and we intend to conduct the analyses for the fisheries concurrently.

We plan to coordinate closely with you regarding potential consequences of the reinitiation process and to ensure you are fully informed of project progress. We look forward to providing additional information as necessary, including briefings if appropriate at the upcoming December Council meetings and the February ASMFC meeting. Should you have any questions about this



correspondence or would like to arrange a briefing, please contact Dan Marrone  
(Daniel.Marrone@noaa.gov; (978) 282-8465).

Sincerely,

A handwritten signature in black ink, appearing to read 'Kimberly B. Damon-Randall', with a long horizontal flourish extending to the right.

Kimberly B. Damon-Randall  
Assistant Regional Administrator  
for Protected Resources

cc: NMFS-SFD – Pentony  
NEFMC – Nies  
MAFMC – Moore



# Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201  
703.842.0740 • 703.842.0741 (fax) • www.asmfc.org

*James J. Gilmore, Jr. (NY), Chair*

*Patrick C. Keliher (ME), Vice-Chair*

*Robert E. Beal, Executive Director*

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*Vision: Sustainably Managing Atlantic Coastal Fisheries*

January 18, 2018

**To: ISFMP Policy Board**

**From: Shad and River Herring Stock Assessment Subcommittee**

**RE: Draft Terms of Reference for the 2019 American Shad Benchmark Stock Assessment and Assessment Schedule**

The next American shad benchmark stock assessment is scheduled to be completed in the summer of 2019. The Shad and River Herring Stock Assessment Subcommittee has recommended the Board consider the following terms of reference for the assessment and peer-review panel:

**Terms of Reference for Stock Assessment Process:**

1. Define and justify stock structure.
2. Characterize age and repeat spawner data by stock and identify utility of data source.
  - a. Provide descriptions of methods, any changes to methods, and associated peer-reviewed literature.
  - b. Describe validation experiments, if available, and available samples.
  - c. Where possible, explore reader consistency, potential bias, and agreement statistics.
  - d. Where possible, explore use of correction factors when consistency in method or reader was not maintained.
3. Characterize precision and accuracy of other fishery-dependent and fishery-independent data used in the assessment, including nontraditional data (i.e., entrainment, impingement, passage).  
Characterization should include the following but is not limited to:
  - a. Provide descriptions of each data source (e.g., time series, geographic location, sampling methodology and changes, potential explanation for outlying or anomalous data).
  - b. Describe calculation and potential standardization of abundance indices.
  - c. Discuss trends and associated estimates of uncertainty (e.g., standard errors).
  - d. Justify inclusion or elimination of available data sources.
4. Estimate bycatch where and when possible.
5. Summarize data availability and trends by stock.

6. If possible, develop models used to estimate population parameters (e.g.,  $Z$ , biomass, abundance) and biological reference points, and analyze model performance.
  - a. Briefly describe history of model usage, its theory and framework, and document associated peer-reviewed literature. If using a new model, test using simulated data.
  - b. Clearly and thoroughly explain model strengths and limitations.
  - c. Discuss the effects of data strengths and weaknesses (e.g., temporal and spatial scale, gear selectivity, ageing accuracy, sample size) on model inputs and outputs.
  - d. State assumptions made for all models and explain the likely effects of assumption violations on synthesis of input data and model outputs. Examples of assumptions may include (but are not limited to):
    - Choice of stock-recruitment function.
    - Calculation of  $M$ . Choice to use (or estimate) constant or time-varying  $M$  and catchability.
    - Choice of equilibrium reference points or proxies for  $MSY$ -based reference points.
    - Choice of a plus group for age-structured species.
    - Constant ecosystem (abiotic and trophic) conditions.
  - e. Justify choice of coefficients of variation (CVs), effective sample sizes, or likelihood weighting schemes.
  - f. Describe stability of model (e.g., ability to find a stable solution, invert Hessian).
  - g. Perform sensitivity analyses for starting parameter values, priors, etc. and conduct other model diagnostics as necessary.
  - h. Characterize uncertainty of model estimates and biological or empirical reference points.
  - i. If multiple models were considered, justify the choice of preferred model and the explanation of any differences in results among models.
7. Recommend stock status as related to reference points, if available.
8. Other potential scientific issues:
  - a. Compare trends in population parameters and reference points with current and proposed modeling approaches. If outcomes differ, discuss potential causes of observed discrepancies.
  - b. Compare reference points derived in this assessment with what is known about the general life history of the exploited stock. Explain any inconsistencies.
  - c. Explore climate change impacts on the species.
  - d. Explore predation impacts on the species.
  - e. Discuss all known anthropogenic sources of mortality and productivity (i.e., stocking, passage mortality) by stock.
9. If a minority report has been filed, explain majority reasoning against adopting approach suggested in that report. The minority report should explain reasoning against adopting approach suggested by the majority.
10. Develop detailed short and long-term prioritized lists of recommendations for future research, data collection, and assessment methodology. Highlight improvements to be made by initiation of next

benchmark stock assessment. Note research recommendations from the previous assessment that have not been addressed and those that have been partially or fully addressed.

11. Recommend timing of next benchmark assessment and intermediate updates, if necessary relative to biology and current management of the species.

**Terms of Reference for External Peer Review:**

1. Evaluate choice of stock structure.
2. Evaluate the thoroughness of data collection and the presentation and treatment of fishery-dependent and fishery-independent data in the assessment, including the following but not limited to:
  - a. Presentation of data source variance (e.g., standard errors).
  - b. Justification for inclusion or elimination of available data sources.
  - c. Consideration of data strengths and weaknesses (e.g., temporal and spatial scale, gear selectivities, ageing accuracy, sample size).
  - d. Calculation and/or standardization of abundance indices.
  - e. Estimation of bycatch.
3. Evaluate the methods and models used to estimate population parameters (e.g.,  $Z$ , biomass, abundance) and biological reference points, including but not limited to:
  - a. Evaluate the choice and justification of the preferred model(s). Was the most appropriate model (or model averaging approach) chosen given available data and life history of the species?
  - b. If multiple models were considered, evaluate the analysts' explanation of any differences in results.
  - c. Evaluate model parameterization and specification (e.g., choice of CVs, effective sample sizes, likelihood weighting schemes, calculation/specification of  $M$ , stock-recruitment relationship, choice of time-varying parameters, plus group treatment).
  - d. Evaluate the diagnostic analyses performed, including but not limited to:
    - Sensitivity analyses to determine model stability and potential consequences of major model assumptions.
  - e. Evaluate the methods used to characterize uncertainty in estimated parameters. Ensure that the implications of uncertainty in technical conclusions are clearly stated.
4. If a minority report has been filed, review minority opinion and any associated analyses. If possible, make recommendation on current or future use of alternative assessment approach presented in minority report.
5. Recommend best estimates of stock biomass, abundance, and exploitation from the assessment by stock for use in management, if possible, or specify alternative estimation methods.



6. Evaluate the choice of reference points and the methods used to determine or estimate them. Recommend stock status determination from the assessment, or, if appropriate, specify alternative methods/measures for management advice.
7. Review the research, data collection, and assessment methodology recommendations provided by the TC and make any additional recommendations warranted. Clearly prioritize the activities needed to inform and maintain the current assessment, and provide recommendations to improve the reliability of future assessments.
8. Recommend timing of the next benchmark assessment and updates, if necessary, relative to the life history and current management of the species.
9. Prepare a peer review panel terms of reference and advisory report summarizing the panel's evaluation of the stock assessment and addressing each peer review term of reference. Develop a list of tasks to be completed following the workshop. Complete and submit the report within 4 weeks of workshop conclusion.

## 2019 American Shad Benchmark Stock Assessment Draft Schedule

<u>Event</u>	<u>Required Participants</u> **	<u>Date/Deadline</u> †
Pre-Assessment Webinar	TC Chair and SAS Chair	October 2017
Webinar for assessment planning	TC and SAS	November 2017
Timeline and Terms of Reference presented to ISFMP Policy Board for approval	ASMFC Science Staff and ISFMP Policy Board	February 2018
Pre-Data Workshop Webinar***	TC and SAS	February 2018
Data Workshop	TC and SAS	March 5-8, 2018
All data uploaded to ASMFC file sharing sites	TC	June 1, 2018*
Post-Data Workshop Webinar***	TC and SAS	August 2018
Pre-Methods Workshop Webinar***	SAS	September 2018
Methods Workshop	SAS	October 2018
Post-Methods Workshop Webinar***	SAS	December 2018
Pre-Assessment Workshop Webinar***	SAS	January 2019
Assessment Workshop	SAS	February 2019
Post-Assessment Workshop Webinar ***	SAS	March 2019
Webinar for TC review of draft assessment report	TC and SAS	June 2019
Peer Review Planning Webinar	SAS and Peer Review Panel	August 2019
Peer Review Workshop	Lead analysts, SAS Chair, TC Chair, Peer Review Panel	August 2019
Shad and River Herring Management Board Meeting to Review Assessment	SAS Chair, Peer Review Panel Chair, and Shad and River Herring Management Board	October 2019

*\*Data through 2017*

*\*\*ASMFC Science and ISFMP Staff participants during all*

*\*\*\*Webinars may be added or cancelled depending on needs*

† Dates are tentative and subject to change without public notice

# ***Atlantic States Marine Fisheries Commission***

## **Business Session**

*February 8, 2018*

*1:15 – 1:30 p.m.*

*Arlington, Virginia*

## **Draft Agenda**

The order in which these items will be taken is subject to change;  
other items may be added as necessary.

- |                                                                       |           |
|-----------------------------------------------------------------------|-----------|
| 1. Welcome/Introductions ( <i>J. Gilmore</i> )                        | 1:15 p.m. |
| 2. Committee Consent                                                  | 1:15 p.m. |
| • Approval of Agenda                                                  |           |
| • Approval of Proceedings from October and November 2017              |           |
| 3. Public Comment                                                     | 1:20 p.m. |
| 4. Review Non-Compliance Findings, If Necessary ( <i>J. Gilmore</i> ) | 1:25 p.m. |
| 5. Other Business/Adjourn                                             | 1:30 p.m. |

The meeting will be held at the Westin Crystal City, 1800 Jefferson Davis Highway, Arlington, VA 22202; 703.486.1111

*Sustainably Managing Atlantic Coastal Fisheries*

**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
BUSINESS SESSION**

**BWI Airport Marriott  
November 14, 2017**

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**INDEX OF MOTIONS**

1. **Approval of Agenda** by consent (Page 1).
2. **On behalf of the Menhaden Board, move the Commission approve Amendment 3 to the Atlantic Menhaden Interstate Fishery Management Plan as amended today.** (Page 1). Motion by Bob Ballou. Motion carried (Page 2).
3. **On behalf of the South Atlantic Board, move the Commission approve the Cobia Interstate Fishery Management Plan** (Page 2). Motion by Mr. Estes. Motion carried (Page 3).
4. **Move to Adjourn** by consent (Page 3).

**ATTENDANCE**

**Board Members**

Pat Keliher, ME (AA)	Andy Shiels, PA, proxy for J. Arway (AA)
Steve Train, ME (GA)	John Clark, DE, proxy for D. Saveikis (AA)
Cheri Patterson, NH, proxy for D. Grout (AA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
G. Ritchie White, NH (GA)	Roy Miller, DE (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Rachel Dean, MD (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)	Dave Blazer, MD (AA)
Raymond Kane, MA (GA)	Allison Colden, MD, proxy for Del. Stein (LA)
Nichola Meserve, MA, proxy for D. Pierce (AA)	Rob O'Reilly, VA, proxy for J. Bull (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Cathy Davenport, VA (GA)
Robert Ballou, RI, proxy for J. Coit (AA)	Michelle Duval, NC, proxy for B. Davis (AA)
David Borden, RI (GA)	David Bush, NC, proxy for Rep. Steinburg (LA)
Colleen Giannini, CT, proxy for M. Alexander (AA)	W. Douglas Brady, NC (GA)
Sen. Craig Miner, CT (LA)	Malcolm Rhodes, SC (GA)
Jim Gilmore, NY (AA)	Robert Boyles, Jr., SC (AA)
Emerson Hasbrouck, NY (GA)	Spud Woodward, GA (AA)
John McMurray, NY, proxy for Sen. Boyle (LA)	Jim Estes, FL, proxy for J. McCawley (AA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)	Martin Gary, PRFC
Tom Fote, NJ (GA)	Derek Orner, NMFS
Russ Allen, NJ, proxy for L. Herrightly (AA)	Mike Millard, USFWS
Loren Lustig, PA (GA)	

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

Jason McNamee, Technical Committee Chair

Jeff Kaelin, Advisory Panel Chair

**Staff**

Bob Beal  
Toni Kerns  
Katie Drew

Shanna Madsen  
Megan Ware  
Max Appelman

**Guests**

Fred Akers, Newtonville, NJ  
Julie Akers, Newtonville, NJ  
Lew Armistead, Hollywood, MD  
Dana Austin, CBF  
Amiele Barakey, CBF  
Blair Blanchette, CBF  
John Bello, VA SSA  
F.L. Benson, Lanexa, VA  
Sarah Boynton, CBF

Kathryn Bush, CBF  
Kim Cable, CBF  
Benson Chiles, Chiles Consulting  
Robt Crockett, Richmond, VA  
Colin Crozier, CBF  
Jeff Deem, VMRC  
Monty Deihl, Omega Protein  
Katherine Denel, PEW Trusts  
Mark Driscoll, Richmond, VA

Draft Proceedings of the Business Session November 2017

Butch Eason, Chesapeake, VA  
A.J. Erskine, Lottsburg, VA  
Lynn Fegley, MD DNR  
Christine Fletcher, PEW  
Manley Fuller, FL Wildlife Fed  
Shaun Gehan, Omega Protein  
Rebecca Gagnon, Norfolk, VA  
Joseph Gordon, PEW  
Ken Hastings, Mason Springs  
Marin Hawk, MSC  
D. Heinemann, Marine Mammal  
Peter Himchak, Omega Protein  
Ken Hinman, Wild Oceans  
Rich Hittenger, RI Saltwater Anglers  
Richard Holewinski, CCA MD  
Jerry Hughes, Chesapeake, VA  
Jason Hoffman, *Undercurrent News*  
Deane Horowitz, CBEC  
John Jaackst, Severn, MD  
Chris Johnson, CBF  
Robert Jones, VSSA  
Ron Ketter, Easton, MD  
Robert Kersey, MD NRP  
Jimmy Kellum, Kellum Maritime  
Howard King, Queenstown, MD  
Aaron Kornbluth, PEW  
Ben Landry, Omega Protein  
George Lapointe, Omega Protein, ME  
Ken Lewis, CCA ME  
Ed Liccione, CCA MD  
Bill Lucey, LI Soundkeeper

Paul Erdman, Menhaden Defenders  
Rudy Lukavovic, CBEC  
Janet Mackey, Easton, MD  
William Martin, CCA MD  
John Matson, Hampton, VA  
Drew Minkiewicz, KDW  
David Mussina, Mystic River W  
Thomas Miller, FORVA  
Chris Moore, CBF  
Henry Neville, Ashland, VA  
Christiana Perry CBEC  
Ken Pinkard, UFCW Local 400  
Jamie Pollack, PEW NY  
Drew Robinson, CBF  
Elizabeth Ronson, CBF  
Robert Ruck, Sr., CCA MD  
Jim Seagraves, Portsmouth, VA  
David Sikorski, CCA  
Jonathan Stone, Save the Bay, RI  
Thomas Strachle, Westminster, MD  
Stan Sutliff, Hampton Roads, VA  
Cameron Taggart, PEW  
Jeff Taylor, Mayforth Group  
Jack Travelstead, CCA  
Donna Waddell, UFCW Local 400  
Marvin Wells, Dundale, MD  
Mike Wills, VA Beach, VA  
Michael Wissel, CCA MD  
Liz Worsham, Heathville, VA  
Tom Zolper, CBF



The Business Session of the Atlantic States Marine Fisheries Commission convened in BWI Airport Marriott, Linthicum Heights, Maryland, Tuesday, November 14, 2017, and was called to order around 3:00 o'clock p.m. by Chairman James J. Gilmore.

### CALL TO ORDER

CHAIRMAN JAMES J. GILMORE: Don't anyone leave. We're going to do this in twelve minutes; and it's actually quicker now, because Dennis Abbott stole all my fun for thanking Bob. But I would just like to add my voice to that. I think Bob did a terrific job. There are YouTube videos on how to run ASMFC meetings now that feature Bob. If you want to see them, he's done a great job, so thanks, Bob.

Okay, Business Session, we have a few items. Before, just to add a couple of words very quickly. I think we made sausage once again. The last couple of days everybody got something, everybody lost something. I think that is pretty much our process. We have probably a long way to go; and some people last night I know at the bar, felt that they didn't get what they wanted.

Trust me, from the Commission, from the leadership on down, we are very committed to getting ecosystem-based reference points and moving this forward. That is not going to be a ten-year process if anybody thinks that. We will work hard at making this the first plan that has ecosystem-based management.

### APPROVAL OF AGENDA

CHAIRMAN GILMORE: That being said, we'll first go for the approval of the agenda. We only have a couple items on here. Are there any changes to the agenda? Seeing none; we'll adopt those by consensus.

### PUBLIC COMMENT

CHAIRMAN GILMORE: Secondly; Public Comment, wow the public is stampeding out of the room. I didn't get any sign ups, and unless there are any hands up.

Nope, no public comment so let's go to first, something you may remember.

### CONSIDER THE FINAL APPROVAL OF THE ATLANTIC MENHADEN AMENDMENT 3

CHAIRMAN GILMORE: Consider the final approval of the Atlantic Menhaden Amendment Final Action. I'm assuming we're going to have to do a roll call vote on this, since it's a final action? Oh, sorry, and that motion has to be made on behalf of the Chairman of the Board.

**MR. BOB BALLOU: On behalf of the Menhaden Board; I move to recommend to the Commission the approval of Amendment 3 to the Menhaden Interstate Fishery Management Plan as amended today.**

CHAIRMAN GILMORE: I don't believe a second is required; because that was made on behalf of the Board. Is there any discussion on the motion? Seeing none; I believe we're going to have to do a roll call vote on this. Let's just go from Maine on south.

EXECUTIVE DIRECTOR ROBERT E. BEAL: I will call the roll. Maine.

MR. PATRICK C. KELIHER: Yes.

EXECUTIVE DIRECTOR BEAL: New Hampshire.

MS. CHERI PATTERSON: Yes.

EXECUTIVE DIRECTOR BEAL: Massachusetts.

MS. NICHOLA MESERVE: Yes.

EXECUTIVE DIRECTOR BEAL: Rhode Island.

MR. ERIC REID: Yes.

EXECUTIVE DIRECTOR BEAL: Connecticut.

MS. COLLEEN GIANINI: Yes.

EXECUTIVE DIRECTOR BEAL: New York.

MR. EMERSON C. HASBROUCK: Yes.

EXECUTIVE DIRECTOR BEAL: New Jersey.

MR. RUSS ALLEN: Yes.

EXECUTIVE DIRECTOR BEAL: Pennsylvania.

MR. ANDY SHIELS: Yes.

EXECUTIVE DIRECTOR BEAL: Delaware.

MR. JOHN CLARK: Yes.

EXECUTIVE DIRECTOR BEAL: Maryland.

MR. DAVID BLAZER: Yes.

EXECUTIVE DIRECTOR BEAL: Virginia.

MR. KYLE SCHICK: No.

EXECUTIVE DIRECTOR BEAL: North Carolina.

DR. MICHELLE DUVAL: Yes.

EXECUTIVE DIRECTOR BEAL: South Carolina.

MR. ROBERT H. BOYLES, JR.: Yes.

EXECUTIVE DIRECTOR BEAL: Georgia.

MR. A.G. "SPUD" WOODWARD: Yes.

EXECUTIVE DIRECTOR BEAL: Florida.

MR. JIM ESTES: Yes.

CHAIRMAN GILMORE: **Motion passes; 14 in favor, 1 opposition.** Our next order of business is to **consider final approval of the Cobia Fishery Management Plan**; and it's a final action also. Jim Estes, I believe is Chairman. Jim, if you could give us a motion.

MR. JIM ESTES: Would you like to hear the long story, Mr. Chairman, or would you like me to just read the motion?

CHAIRMAN GILMORE: I think reading the motion would be the pleasure of the Board at this point; but I'll take objections if someone wants to hear the long story.

**MR. ESTES: On behalf of the South Atlantic Board; I move the Commission approve the Cobia Interstate Fishery Management Plan.**

CHAIRMAN GILMORE: Okay, we're going to do a roll call. First off is there any discussion on the motion? Seeing none; we'll have to take a roll call vote on this, so Bob take it away. We'll go from the south to the north.

EXECUTIVE DIRECTOR BEAL: The interested states to the less interested states, maybe? Florida.

MR. ESTES: Yes.

EXECUTIVE DIRECTOR BEAL: Georgia.

MR. WOODWARD: Yes.

EXECUTIVE DIRECTOR BEAL: South Carolina.

MR. BOYLES: Yes.

EXECUTIVE DIRECTOR BEAL: North Carolina.

DR. DUVAL: Yes.

EXECUTIVE DIRECTOR BEAL: Virginia.

MR. SCHICK: Yes.

EXECUTIVE DIRECTOR BEAL: Maryland.

MR. BLAZER: Yes.

EXECUTIVE DIRECTOR BEAL: Delaware.

MR. CLARK: Yes.

EXECUTIVE DIRECTOR BEAL: Pennsylvania.

MR. ANDY SHIELS: Yes.

EXECUTIVE DIRECTOR BEAL: New Jersey.

MR. ALLEN: Yes.

EXECUTIVE DIRECTOR BEAL: New York.

MR. HASBROUCK: Yes.

EXECUTIVE DIRECTOR BEAL: Connecticut.

MS. GIANINI: Yes.

EXECUTIVE DIRECTOR BEAL: Rhode Island.

MR. REID: Yes.

EXECUTIVE DIRECTOR BEAL: Massachusetts.

MS. MESERVE: Yes.

EXECUTIVE DIRECTOR BEAL: New Hampshire.

MR. ABBOTT: Yes.

EXECUTIVE DIRECTOR BEAL: And Maine.

MR. KELIHER: Assuming this includes our allocation; yes.

CHAIRMAN GILMORE: It's unanimous, including Colleen wants to know what a cobia is from the look on her face. Thank you all for that. **That motion is approved unanimously.**

## ADJOURNMENT

CHAIRMAN GILMORE: Is there any other business to come before the Business Session? Seeing none; we are adjourned, and you are dismissed to go home early. It's only 3:13: Thank you everyone, we'll see you in February.

(Whereupon the meeting recessed at 3:13 on November 14, 2017.)

Draft Proceedings of the Business Session October 2017

**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
BUSINESS SESSION**

**The Marriott Norfolk Waterside  
Norfolk, Virginia  
October 17, 2017**

These minutes are draft and subject to approval by the Business Session  
The Board will review the minutes during its next meeting

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3. **Move the Commission approve Amendment 3 to the Northern Shrimp Interstate Fishery Management Plan** (Page 15). Motion by Doug Grout; second by Eric Reid. Motion is approved by unanimous consent (Page 15).
4. **Move the Commission send a letter to NOAA Fisheries and the New England Fishery Management Council regarding the requirements for size-sorting grates in Amendment 3 to the Northern Shrimp Fishery Management Plan** (Page 15). Motion by Doug Grout; second by John Clark. Motion carries by unanimous consent (Page 15).
5. **On behalf of the Tautog Management Board, move the Commission approve Amendment 1 to the Tautog Interstate Fishery Management Plan** (Page 15). Motion by Doug Grout; second by John Clark. Motion carries by unanimous consent (Page 15).
6. **Move to Adjourn** by consent (Page 17).

**ATTENDANCE**

**Board Members**

Pat Keliher, ME (AA)	John Clark, DE, proxy for D. Saveikis (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
Doug Grout, NH (AA)	David Blazer, MD (AA)
Ritchie White, NH (GA)	Rachel Dean, MD (GA)
Raymond Kane, MA (GA)	Ed O'Brien, MD, proxy for Del. Stein (LA)
David Pierce, MA (AA)	John Bull, VA (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Rob O'Reilly, VA, Administrative proxy
Jason McNamee, RI, proxy for J. Coit (AA)	Chris Batsavage, NC, proxy for B. Davis (AA)
David Borden, RI (GA)	David Bush, NC, proxy for Rep. Steinburg (LA)
Mark Alexander, CT (AA)	Robert Boyles, SC (AA)
James Gilmore, NY (AA)	Malcolm Rhodes, SC (GA)
Russ Allen, NJ, proxy for L. Herrighty (AA)	Spud Woodward, GA (AA)
Tom Fote, NJ (GA)	Pat Geer, GA, proxy for Rep. Nimmer (LA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)	Jim Estes, FL, proxy for J. McCawley (AA)
Andy Shiels, PA, proxy for J. Arway (AA)	Sherry White, USFWS
Roy Miller, DE (GA)	Lindsay Fullenkamp, NMFS

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

**Staff**

Bob Beal	Mark Robson
Toni Kerns	

**Guests**

Heather Corbett, NJ DFW	Jack McGovern, NMFS
Dan Crear, VIMS	Brandon Muffley, MAFMC
Michelle Duval, NC DMF	Derek Orner, NOAA
Lynn Fegley, MD DNR	Chris Wright, NMFS
Ryan Jiorle, VMRC	

The Business Session of the Atlantic States Marine Fisheries Commission convened in the Hampton Roads Ballroom V of the Marriott Waterside Hotel, Norfolk, Virginia, October 18, 2017, and was called to order at 1:25 o'clock p.m. by Chairman Douglas E. Grout.

**CALL TO ORDER**

CHAIRMAN DOUGLAS E. GROUT: Good afternoon everybody, welcome to the Business Session; if you all could take your seat. Before we get into the agenda, John Bullard, the GARFO Regional Administrator, who as you know is retiring shortly; and this may be his last meeting, would like to say a few things to the Commission. John, I'll turn it over to you.

MR. JOHN K. BULLARD: Thank you very much, Mr. Chair, I just have one page here. Hello all you all. Bless your heart. Five years ago I attended this meeting to introduce myself; so at this meeting it's time to say goodbye. The ASMFC has made incredible progress; thanks to Commissioner John Bull just in the last year.

You have found ways to introduce heat into the rooms in which we meet, and so people can make motions without having to wear gloves to do so. I've learned an awful lot. I think the first meeting I learned at high volume from Dr. Daniel about the shortcomings on our sturgeon policy; still don't have an eardrum.

But we have as we learned this morning, made an awful lot of progress in sturgeon, and progress in a lot of other areas as well. I really do value a lot of lessons that I've learned from attendance at these meetings. You all have made some very tough decisions around these tables. There was one; I think it was in Baltimore on menhaden.

But those tough decisions are necessary to rebuild fisheries. You've done that. Not just with menhaden. From my vantage point in the audience, I can listen to the debate and I can

see the looks around the table. I can see how you hold yourselves accountable, how you help each other resist the pressures that you have all felt at one time or another.

I see how you support each other to do what is right. It's a very valuable lesson for me and for all of us. I've enjoyed our partnership in this effort, working with you on tough issues like for example southern New England lobster with my grade school schoolmate David Borden, who lives across the river from me as we try to transition that industry from lobster to Jonah crab.

That's just one example of the partnership that we have with you. I've seen this partnership, this very important partnership get very sorely tested with summer flounder. My remarks in the Boston Globe several months ago got me in hot water with my bosses, so I don't think I should comment any more on that. You can go read it if you want. But Chairman Grout's comments last night at dinner, I think your remarks Mr. Chairman were right on the money. I'm glad you have a meeting set up with Secretary Ross. I fervently hope that this is a one-time occurrence, and everyone here will work to make that breakdown a singular exception. Because we face many challenges that will require our wonderful, decentralized system of managing fisheries work, we have a lot of challenges.

You all know them as well or better than I do. There are still issues with summer flounder, black sea bass, and other fisheries. There is the issue of climate change, which you have helped educate us, and the regional fishery management councils on. It's causing havoc in so many ways. The issue of allocations has to be faced.

The issue of forage fish has been mentioned here. Just this morning Bob Beal mentioned competing ocean uses. There are of course others. This partnership that we have is very



important. There are some “thank-you’s” that I want to offer, Mr. Chairman. It could take all day and I don’t want to.

But I do want to mention in particular on state directors. It was at a meeting we had with state directors out in San Diego that Paul Diodati, who was deservedly honored at lunch, said to leadership at NOAA Fisheries that we aren’t partners with state directors, state directors are our allies. That is a very good use of that term.

I’ve certainly felt that we are in the trenches with state directors. I’ve felt that and I’ve enjoyed the relationships that I’ve had with the state directors confronting problems in my region. As I’ve done that with each and every one of you, I’ve developed profound respect and become friends, maybe possible exception Commissioner Martin, bless his heart.

But in all seriousness, Russ, come on. I can’t start laughing now, Russ. The respect I have for you is so high for the jobs you do, the difficult jobs you do. Secondly, the staff at ASMFC, Bob, Toni and all of the team under ASMFC, wow, it’s every time it seems that we have a problem at NOAA Fisheries, where we need something done.

You know I pick up the phone and call Bob. You know if it’s distribution of disaster assistance; if it’s reimbursement for at-sea monitoring, if it’s help with fishery dependent data visioning with the partnership that we both have with ACCSP and Mike and his team. The professionalism, the dedication, the expertise, the passion, you know they’re an extension of our team.

It’s so wonderful to work with, you know this Mr. Chairman, but I want to tell you we know it too. It’s just a great team to work with, the staff here. Lastly, I want to say our team here at NOAA that I have the honor of working with. I was going to serve two years at NOAA Fisheries. If I were a carton of milk, I would be something you would stay very far away from,

well past my expiration date. But I’ve stayed because my staff is so fantastic.

The two Mikes, Mike Petney, Mike Ruccio, I’m going to leave people out but Peter Burns, Ali, Chip, Kelly, Lindsay, Lynn, Derrick, others who have been at this microphone. You’ve gotten to know them well, and I’m sorry that I’ve left some out. But there have been so many who’ve shown you their dedication and their passion for this job; their expertise, their knowledge. I never cease to be amazed. I go home every night my brain hurts just trying to keep up with them. I can’t possibly do that. But it is an honor for me to work alongside them. When I look up above me, at people like Sam Rauch, and the leaders there, I feel lucky to work for them. I think you’re in good hands as I look around the administration at our political leadership. Chris Oliver, you know we’ve drawn the long straw in a lot of people. Chris Oliver knows fisheries for decades and decades in both the Gulf of Mexico and in Alaska.

Admiral Gallaudet, who just started work this week, is going to be very, very good at NOAA. I think you’ll take the measure of Secretary Ross when you meet with him. But I think he’s a numbers guy, and we’re a numbers agency. I think he’s strong. I think we’ve got a strong team. I think we can hold our end of the partnership up.

With that Mr. Chairman, I do hope occasionally I’ll run into you all again. It’s been a real pleasure and an honor to work with you. We have such an important mission. I come from a seaport, New Bedford. I know the stakes and the difficulty, and the importance of our work; and I wish you the best as you carry on that most important mission. Thank you very much, Mr. Chair.

CHAIRMAN GROUT: Thank you very much, John. (Applause) John, I just want to recognize you and thank you for all that you have done to promote and support the partnership that we

have between the Commission and GARFO. I've seen many, many things that you've done over the years that you have supported our work, you've supported our communication, you've supported our co-management, and you have been an ally as we have tried to be an ally in your work. Thank you very much, John and good luck in your retirement. (Applause)

#### **APPROVAL OF AGENDA**

CHAIRMAN GROUT: Okay, we now have an agenda before you. Are there any changes to the Business Agenda? Seeing none; are there any objections to approving the agenda? It is approved by unanimous consent.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN GROUT: We also have proceedings from our May meeting. Are there any changes or edits to that May meeting minutes? Seeing none; is there any objection to approving the minutes? They are approved by unanimous consent.

#### **PUBLIC COMMENT**

CHAIRMAN GROUT: We also have an opportunity here for public comment for things that are not on the agenda. Is there anybody in the public or the audience that would like to speak on things not on the agenda?

#### **REVIEW AND CONSIDER APPROVAL OF THE 2018 ACTION PLAN**

CHAIRMAN GROUT: Seeing none; we'll move into Review and Consider Approval of the 2018 Action Plan. Bob.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Just all the staff up here we'll go through the individual sections. But a lot of times we present a budget associated with this action plan, and we don't have that together this year. But we have done the rough analysis, and it looks like we can afford everything that's in here. That is the good news.

The bad news is, if you want to add things in here, we probably need to do some horse trading and swap some things out. As the staff is running through it, if there are significant financial expenditures that need to be added, we're going to need to think about that a little bit how we can cover those expenses. With that I think Toni can go through Goal 1, if that's okay, Mr. Chairman.

CHAIRMAN GROUT: Sounds good, Toni.

MS. TONI KERNS: What I'm going to do is go through the bolded actions, and I think that's what all of us up here will be doing today. These are new items that we're going to be taking on. Other work is stuff that we have either started or is something that is consistent from year to year within the plan. I'll go to Goal 1, which is our ISFMP goal, and starting with American eel. We'll consider a management response to the 2017 assessment findings, which the Board heard earlier this week, and look to do a management document on allocations and quotas specific to the yellow and glass eel fisheries.

We'll also have the Technical Committee or some folks from the Technical Committee, not the full, evaluate the monitoring efforts to identify gaps and the value of existing surveys for assessment and management use. The American Lobster Board will finalize and implement Addendum XXVI; which is looking to improve harvester reporting and biological data collection in state and federal waters.

This will also apply to the Jonah crab fishery as well. We'll look at Addendum XXVII, which considers standardization of the management measures in the Gulf of Maine and Georges Bank stock, and develop a strategy for management of the southern New England stock that considers the record low abundance of the stock, and preserves a function of a portion of the fishery, acknowledging the

effects of climate change on the lobster resource.

The TC will initiate the 2020 benchmark stock assessment. While it's not in this document for Atlantic herring, we did task the TC to look into the efficacy of all of the management goals and objectives of the spawning closures, using the GSI forecasting system. For Atlantic menhaden, we will be initiating the 2019 benchmark stock assessment. For Atlantic sturgeon, we will monitor the state and federal activities in response to the Endangered Species Act listing of the Atlantic sturgeon, including the five-year-review status, which we heard about this morning.

In bluefish, we'll be collaborating with the Mid-Atlantic Council to initiate the development of an amendment that would address allocation in the bluefish fishery, as well as collaborate with the Council and the Science Center to complete an operational stock assessment pending the availability of the new MRIP program estimates, and then consider a management response to the assessment findings in conjunction with the Council.

For coastal sharks, we'll monitor the stock assessment results for sandbar and mako sharks, and provide a Technical Committee recommendation to those assessments, and then do a management response if we need some complementary management actions with HMS. Under shad and river herring, we'll be initiating the 2019 American shad benchmark stock assessment; and we'll be monitoring the activities of the ESA review of river herring.

We'll also review and update the American shad habitat plans as required by Amendment 3. For both Atlantic croaker and spot, we will be conducting the analysis to explore and potentially update the traffic-light analysis, which includes additional indices or age-

composition information as a possibility for inclusion.

Cobia, we will implement the cobia FMP and work with the South Atlantic Fishery Management Council, as well as NOAA Fisheries, to ensure complementary regulations between state and federal waters, if the Board approves a cobia FMP this week. We'll also collaborate with the SEDAR to conduct a stock identification workshop, in preparation for the 2019 benchmark stock assessment, which we will also initiate. For scup we will collaborate with NOAA Fisheries and the Science Center to finalize the 2018 operational assessment pending the availability of updated MRIP information, and then consider a management response as necessary. The same for black sea bass, and we will also, if made a priority by the Mid-Atlantic Council (and this will be discussed at the December meeting), collaborate with the Council to initiate a black sea bass amendment that would consider management of the entire fishery. Then for weakfish, I have a correction. It should say initiate the development of the 2019 stock assessment update.

We're going to do an update this year, but due to the MRIP data coming out in either the late summer or fall of this year, and because that assessment has such a reliance on recreational CPUE, we thought it best that we wait and get that information first and then do the update. For winter flounder, the Board will review the 2018 GARM stock assessment results for inshore winter flounder, and consider management response in coordination with the New England Fishery Management Council, as well as GARFO.

Then scrolling down into Section 1.2, we'll collaborate with NOAA Fisheries and the Secretary of Commerce, to ensure transparency and the integrity of the Atlantic Coastal Fishery Cooperative Management Act as provisions are preserved, including seeking opportunities to collaborate with NOAA Fisheries as it conducts

the ESA status reviews for sturgeon and river herring.

We will also take the next steps in response to the Commission's climate change white paper to address fisheries impacted by climate change; and we'll be discussing that later this week at the Policy Board. We will also work with NOAA leadership to better understand the impacts to state management programs; given the movement towards increased recreational flexibility.

We'll be seeking ways to address the concerns of the recreational community with regards to Commission managed and jointly managed species. As a part of this the Commission will assist in conducting and participate in the NOAA Fisheries 2018 National Recreational Summit. We will also respond to the new MRIP estimates as needed across all of our Commission managed species; and I will pass it off to Pat for Goal 2, Science. I'll take questions first.

CHAIRMAN GROUT: Pat.

MR. PATRICK C. KELIHER: Toni, you made note of the herring issue from a budgetary perspective. If there was a need for an addendum are we going to be okay?

EXECUTIVE DIRECTOR BEAL: Pat, if it's only three hearings up in your neck of the woods that's not a real great expense; one trip up, a couple nights in a hotel. We can probably accommodate that no problem.

CHAIRMAN GROUT: Are there any other questions for Toni on Goal 1? Seeing none; Pat.

MR. PAT CAMPFIELD: Goal 2 covers the fisheries science research and stock assessment activities of the Commission. New activities include a collection of more spot age data; as well as pursuing improved sturgeon bycatch monitoring in state waters. Those were both

research recommendations that came out of stock assessments completed this year.

In terms of the overall stock assessment workload, it looks pretty heavy for 2018; including benchmark assessments for sea herring, horseshoe crab, northern shrimp, striped bass, and summer flounder as well as initiating a benchmark assessment for American shad. We will also conduct assessment updates for spiny dogfish, and initiate an update for weakfish. Tied to a few of those benchmarks, the Commission will organize and conduct peer reviews for the horseshoe crab, northern shrimp, and possibly the striped bass stock assessment.

We need to figure out if that's going to be an ASMFC or SARC review. Another new task is to develop a long term vision for scientific initiatives within the Commission's next five-year-strategic plan; and that is a task that will be spearheaded by the Management and Science Committee, and the Assessment Science Committee.

Moving down to Task 2.18, consult with the Assessment Science Committee on a red drum stock assessment guidance, and develop a road map for improving data collection and future assessment for the South Atlantic Board. Also, monitor the progress of cobia research projects, and contribute to the Stock ID workshop in preparation for that assessment in 2019.

We've also added a task to partner more closely with the U.S. geological survey; to identify shared priorities and opportunities for enhanced scientific support to the Commission. Much of the activities under NEMAP and SEAMAP are the same. Under fish aging activities, it's not bolded in this copy, but we will hold an aging workshop for American eel in 2018.

Under the Committee on Economics and Social Sciences, they will continue their work to

develop new ACCSP socioeconomic data standards, and that's already underway. We have also added a task to track progress and distribute information on Citizen Science initiatives, including through the South Atlantic Council, Gulf of Maine Research Institute, and other entities. Finally, under the Commission's Stock Assessment Training Program, we will hold trainings both at the introductory level and advanced stock assessment training in 2018.

CHAIRMAN GROUT: Are there any questions for Pat on Goal 2? David, thank you.

DR. DAVID PIERCE: Just a clarification on Task 2.3.4, track the progress and distribute information on Citizen Science Initiatives through those different groups. What is the thinking regarding these specific initiatives? Citizen Science Initiatives are something new that we're going to entertain? Explain a little bit as to why this task is in it if you would.

MR. CAMPFIELD: A couple of examples include, with GMRI they have a Snap a striper program, which is something that we've highlighted in Fisheries Focus. It's simply not for the Commission to initiate these fairly local programs, but to be a centralized place to understand what's going on up and down the coast, and explore their utility, either for technical processes, or to advise fishery management.

CHAIRMAN GROUT: John.

MR. JOHN CLARK: Pat, could you just expound a little bit on what the ACCSP Socioeconomic Data Standards are, and how those will be used in the upcoming addendums and amendments?

MR. CAMPFIELD: For starters, the program, and Mike feel free to jump in, but ACCSP has a very short list of standards that they developed way back in the late '90s, and although it continues to be a program priority, there are some socioeconomic data that have come into ACCSP,

but it's not at the same level as the catch and effort bycatch data. In order to promote more socioeconomic data coming in from the states and federal partners, we need to develop standards, and that's something that Shanna Madsen as our SESS Coordinator has worked with ACCSP to get that ball rolling this year. We hope to finish it this year; and part of the objective is to provide that baseline information to fishery management plans on different socioeconomic indicators. That's part of the longer goal.

CHAIRMAN GROUT: Are there any other questions on Goal 2; Goal 3, Toni?

MS. KERNS: Goal 3 is our promoting compliance within our fishery management plans, so Goal 3 looks at Activities of our Law Enforcement Committee, and there are fewer bolded tasks here, but still lots of great work going on from the Law Enforcement Committee, especially in response to any items that will come out of management boards.

But they will be evaluating the effectiveness of the commercial tagging programs and systems, and user compliance in particular with tautog. We won't initiate that tagging program until 2019, but we'll still be working with Law Enforcement to make sure that the program that we put together does not have any enforcement loopholes. I'll be reviewing and providing input on enforcement issues associated with the American eel or any other aquaculture programs and proposals; and that is it.

CHAIRMAN GROUT: Questions on the Goal 3. Seeing none; Goal 4, Fish Habitat.

MS. KERNS: I'm going to tag team this with Pat. He'll cover the ACFHP portions of the habitat goal and I will do the Commission's Habitat Program. Habitat is actually currently meeting right now, and they will be publishing a Habitat

Management Series. They are still determining what that topic will be.

We will fill this in once they have made that decision later today. We will also be developing outreach materials on the benefits of habitat to fish productivity, for nontechnical audiences; and this is geared at stakeholders, the media, and the general public to be handed out at tradeshows and such. I'll pass it over to Pat.

MR. CAMPFIELD: Quickly on the Atlantic Coastal Fish Habitat Partnership, just a few new activities. One to update their website, the second very large task, to conduct habitat mapping projects both in the Southeast and Northeast Regions. Finally, to take their species habitat matrix, this was currently in a journal publication format, and moved that to an online searchable format.

MS. KERNS: Then we'll be also identifying important fish habitats for Commission managed species, including information on a 2018 Habitat Management Series document that's called Important Fish Habitats. This is sort of taking all of what we currently call habitat areas of concern, HAPCs, in which the Habitat Committee is developing new language to address that topic, as directed by the Policy Board. Then we're going to put all of those, whatever the new term is, into one document for easy reference. That is all.

CHAIRMAN GROUT: Are there any questions on Goal 4? Seeing none; Goal 5, is that you, Tina?

MS. TINA BERGER: Goal 5 addresses our stakeholder and public support for the Commission and specifically our outreach initiatives. You'll see much of the content remains from last year as ongoing activities. New to this year is a focus on collaborating with NOAA Fisheries MRIP staff and communicating improvements and changes to the MRIP.

We will be publishing our 2017 Annual Report, continue to work with the science staff on

preparing and distributing assessment overviews and focal species for next year are herring, striped bass, horseshoe crab, northern shrimp, and summer flounder. We're going to explore this year doing some quarterly, topic driven webinars, to engage and inform the public about our current activities.

We'll focus each quarterly webinar in a different aspect of Commission programs for management, science, habitat, and data collection. I'll be working with the Commission staff to further improve our messaging and communication skills with media; as well as strengthening our ability to provide a written content that is accessible for nontechnical audiences. We will be updating our website early in the year to just improve functionality, and include new content on ACCSP, cobia, as well as a Fisheries Management 101 Page, and that's it for outreach.

CHAIRMAN GROUT: Questions on Goal 5? Loren.

MR. LOREN W. LUSTIG: Thank you very much for the information just relayed to us about how we relate to the public; and how we can help them to understand more, ideally, what we are actually doing and why we're doing it. I was especially interested in the consideration regarding webinars.

I participated in some of those in Pennsylvania, with the Pennsylvania Game Commission, and other agencies. I'm wondering if there is an opportunity here for us to reach out to high school or college science like classes, so that they can get a grasp on our role in changing environment.

For example, there is a program in Maryland called Grasses in Classes, where kids get involved in the production and planting of submerged aquatic vegetation. There is a program in Pennsylvania that encourages science students to raise trout; and release

them in our streams. Is there anything that we can do that would be similar to those two programs?

MR. BERGER: We do make an effort to go to various graduate and undergraduate programs and talk about the Commission and fisheries management in general. We have also increased our outreach to sportfishing clubs. In terms of reaching out to high school or science classes, specifically in terms of hands on stuff, we have not. But we could certainly talk about it at the staff level, and see where we could involve ourselves in those activities to a greater extent.

CHAIRMAN GROUT: Other questions on this goal? David.

MR. DAVID E. BUSH, JR.: This relates to Goal 5, but may also be like 3.11 or 12. It has to do with specifically cohiba in this particular instance. But you're getting a lot more stakeholders that are doing their homework. They're hitting the books. They've trying to understand what's going on. Some of them may or may not be able to join the different committees and panels, and feel like you know they've done their homework and might have a different opinion. I know we can't chase every rabbit down every hole. But in instances where they've put substantial effort forth to do some research and would like some return answers on why or why not information may or may not be included. I think a good way to maybe strengthen that support, you know where we're going back home to our constituents or our stakeholders and they're like, well I sent it in and I didn't hear anything back.

It's now in public record and it may or may not go away. Is there a mechanism in which we could possibly, at least somewhat address what they're sending in, and make that visible to the folks around the table as well? A lot of the things that they've brought forward you may or may not have merit, and I wouldn't know that.

It would be probably a technical committee of some sort, or science committee that would be looking at it and seeing that okay this applies, this doesn't and here is why. But again, I'm just looking if there is a mechanism in place already that I'm not aware of that would help to answer those questions, and maybe put some of the ideas to rest that they have or say that they have merit and include them.

EXECUTIVE DIRECTOR BEAL: David, if we get specifically asked something from a member of the public, you know we try to respond to that. I think it's almost a volume issue that we wrestle with in that we have tens of thousands or at least 10,000 comments on menhaden already. I don't know where Megan is; she's probably summarizing menhaden comments. But during public comment periods, I don't think we have the sort of bandwidth to respond to all the different things that come in, and those different comments.

But the sort of one-off letters that we get that asks us for specific actions or brings forward specific information. We try to respond to those as well as we can. The Technical folks don't necessarily have time to run each of those letters by a technical committee and those sorts of things. But we can definitely make as much of an effort as possible to respond to those letters; just we can't keep up with everything.

CHAIRMAN GROUT: Toni.

MS. KERNS: In addition to that David, for assessments we do put an open call out to the public on providing data or working papers, and those do get addressed by the Committee, whether or not they get included and why they do or do not get included. That is another process, especially where a response will come back for someone that's done a lot of research and done their homework.

CHAIRMAN GROUT: Further questions on this goal? Goal 6, is that you, Bob?

EXECUTIVE DIRECTOR BEAL: I'll give it a shot. Goal 6 is the Legislative work that we do, Capitol Hill work that Deke and I handle with the assistance of many of your folks. A lot of it is ongoing activities that we do every year with reaching out to the Hill and then creating those relationships.

But there are a few specific new tasks this year, the first of which is Gulf of Maine lobster. There is some budget language in there, and some report language that does include some funds for Gulf of Maine lobster; look at some of the impacts and environmental changes. We've worked with Pat Keliher on that. We'll engage the Commissioners in the formulation of the Commission positions on legislative policies, including the Magnuson-Stevens Act Reauthorization documents. There are a few versions out there right now on the House side. If there is a need, we can reach out to you all and then just solidify an ASMFC position if there is one. It's probably a little bit scattered up and down the coast.

Moving on to Task 6.4.3, the next suite of new tasks are reacting and responding to the Atlantic Coastal Act Provisions, and ensuring that transparency is maintained, and then the policy and funding issues. Obviously we communicate the funding priorities for the states, and it goes on to develop relationships with the Secretary of Commerce and Assistant Administrator for NOAA Fisheries.

Meeting with the Secretary to talk Atlantic Coastal Act, which we're doing next week, and also talking again about the priorities for the Commission and the funding, including horseshoe crab survey that we've been able to fund the last couple of years, so that's good news. The bad news is it's not permanently part of the budget, so we have to go out there and make sure the dollars are available every year for the Horseshoe Crab Survey. Those are the highlights of our Capital Hill outreach

activities. I can answer any questions if there are any, Mr. Chairman.

CHAIRMAN GROUT: Malcolm.

DR. MALCOLM RHODES: Just one question. The Delaware Bay, is that specifically the Virginia Tech Survey?

EXECUTIVE DIRECTOR BEAL: Yes.

CHAIRMAN GROUT: Tom Fote.

MR. THOMAS P. FOTE: It was always helpful when I went to a Congressional office to have as much information as I could; and the last year I was able and I went through and actually even state legislators. When Southwick's did the breakdown of recreational fishing by numbers, and every Congressional District, which they did in every state, it was very helpful to walk in with that economic breakdown.

I wish I had it for the commercial fishery, because it would have been really important, especially in New Jersey. But when you find out you've got 66,000 anglers in your district, even though you're in the middle of a state that's not even near the water, and made a big point. The old books we used to put together with all the fishery plans in it, the information on the species and things like that always made a nice presentation to give into the office with those types of sheets.

It would be nice if we had the same thing on the commercial side as we have on the recreational, because those numbers mean money to the Congressional Districts, but we also use it for the state legislature, because they know which congressional district they're in, they can see the breakdown of money to do that. That would be helpful also.

EXECUTIVE DIRECTOR BEAL: Tom, we can pull those together for you, you know any specific meetings you have let us know. We can pull



some information together. Deke and I usually bring sort of the state level economic impact data with us when we go up to the Hill; you know talking recreational impact, commercial impact. A number of jobs on the commercial side, a number of trips on the recreational side, those sorts of things, we haven't broken it down to individual districts. We usually have been talking at the state level. But we can break it down further if it's available.

CHAIRMAN GROUT: Follow up, Tom?

MR. FOTE: Yes, it's already broken down. Southwick's put that all together, so they have it all over for all the states up and down the coast. I can get you that information if you need it.

EXECUTIVE DIRECTOR BEAL: Great, thank you.

CHAIRMAN GROUT: Dave Pierce.

DR. PIERCE: Task 6.3.5, Engage Commissioners in the formulation of the Commission's position on federal legislative policy, including pending MSA Reauthorization legislation. When might that engagement occur? I mean there are some bills out there now being considered. Maybe we'll get something this time around.

There certainly is one notable suggestion regarding how to deal with recreational fisheries. The New England Council, maybe the other Council is taking a position on MRIP and how effective it is for monitoring recreational fisheries catch. I just suggest that our leadership needs to decide when we should weigh in on that particular legislation.

I suggest in particular when we should weigh in on that aspect of possible changes in the Magnuson Act, specific to how we manage recreational fisheries, because let's face it, when it comes to how they're managed, it really falls into the lap of ASMFC. The council's tend to be rather broad brushed. What should

be done in federal waters, and it's really what happens in state waters for the most part.

This has great implications. This particular legislation, this particular bill on recreational fisheries, potentially has some rather significant implications for how we do our business. Again, when the leadership, you feel it's necessary to weigh in, please take the initiative to have us do so.

EXECUTIVE DIRECTOR BEAL: Yes, I think we're getting close to that point, David. Like I said there are a few house versions that are swirling around right now. In talking with some of the staffers on the House side, it sounds like they're going to try to merge those different drafts into a single draft. I think once you get to that point it is probably a good opportunity for the Commission to chime in on what's there, so we can reach out to you once we see that.

CHAIRMAN GROUT: Are there any other questions on this goal? Seeing none; who is going to do finance? Okay, Bob.

EXECUTIVE DIRECTOR BEAL: Goal 7 is the Finance and Administration of the Commission. Most of these are things that we do every year. Not to say it's not a lot of work, it is a lot of work. But they are just the care and feeding to keep this whole business going. There are a couple new tasks buried in here. We're going to focus training for new staff on how to use some of our electronic tools, such as new data bases and software packages and other things that we have at the Commission, to make sure everybody is up to speed on those. We're looking at software packages to help digitize some of our accounting procedures and billing processes, and contracts database to track all the details of the multiple contracts.

As we have more and more of these cooperative agreements with NOAA Fisheries, we end up with more and more projects and tracking all those is getting more and more

cumbersome each year. We're going to develop a database to make that much more efficient. We're going to do a training workshop for staff on meeting facilitation to help enhance committee productivity and performance.

We're considering engaging an outside consultant to work on staff culture, and looking at better ways to do performance reviews and feedback to staff throughout the year. We do once a year performance reviews right now, and a lot of businesses and agencies are getting away from that and doing different ways to evaluate performance.

We're going to look into that and see if there is a better way to do that for the Commission, and then at the very end 7.6 is a new strategic plan. Our current plan goes through the end of next calendar year, so during next calendar year we need to develop the next five-year plan. It would be 2019 to 2023.

The Executive Committee talked about this briefly this morning, and the course that they are suggesting that you take is have a couple hours at the February meeting to have all the Commissioners brainstorm on where we are with our current strategic plan. Do we need to just trash what we have and start all over and blow the things up; or is it just some minor course corrections and tweaks that we need?

I think the major tasks that we've already talked about so far are fundamental to what we do, fish management, fish science outreach and Congressional outreach, habitat, Law Enforcement, et cetera. I think those pieces of the strategic plan are set, but what other things do the Commissioners want to change and we'll explore that in a workshop in February, and then based on the outcome of that workshop, we'll decide what the course is for the remainder of the year for the strategic plan. That's Goal 7, Mr. Chairman.

CHAIRMAN GROUT: Jim Gilmore.

MR. JAMES J. GILMORE: Robert Boyles had a good suggestion this morning for our meeting efficiency, and maybe bringing our parliamentarian back in to give us some education. Is that going to be on the budget for 2018, or are we going to have to kick that down the road until 2019?

EXECUTIVE DIRECTOR BEAL: We can probably afford to bring Colette in for a half day or something. A refresher for Commissioners on meeting efficiency, I guess is what you guys were looking for this morning. We can probably do that. Some of this budget is a little bit uncertain. We don't know exactly what we're going to get from Congress, and we're going to have some rollover dollars from this year to next. The one thing I should have said at the outset about the budget is we adjusted the overhead rate for the Atlantic Coastal Act. We actually reduced the overhead taken out by the Commission. Our ability to afford to conduct all these activities does relate back to the fact that we reduced overhead and we had a few more dollars available for programmatic activities than we have in the past. Everything keeps getting more expensive, but we've been able to keep it going so far.

CHAIRMAN GROUT: Are there any other questions on Goal 7? Okay we'll move to Goal 8, Mike.

MR. MIKE CAHALL: Here I am. Good afternoon.

The ACCSP Action Plan is actually based on the ACCSP Strategic Plan. Coincidentally it expires at the same time that the Commission's plan does, and I believe our intention is to integrate the plans together as part of the upcoming strategic planning process.

Thus, this plan is slightly different in its depth than the Commission's plan was. But essentially it's a status quo plan. There aren't

any significant new efforts, in the sense that we're going to go out and discover something new or build something new. However, I want to bring just a couple of things to your attention.

In terms of our data warehousing, we're going to continue to improve on our data query interface, which you all will see shortly, and try to bring in additional, especially biological datasets. The Coordinating Council approved an additional FTE for us that should help to facilitate that process.

We're going to continue to work with our program partners to keep our standards current. As we've worked with them to bring in additional data, especially in the trip reporting arena, we've had to make some adjustments to the data standards, specifically to our coding schemes, to be able to better identify gears and those kinds of things.

We also will be working really hard. I think the single biggest focus of the program probably for the next year is going to be implementing for-hire reporting. We are working with the Mid-Atlantic and the South Atlantic Councils to complete modifications to our trip tool, in order to be able to accommodate their requirements.

As most of you are aware, the new reporting requirements for Mid-Atlantic go into effect in March of next year. Our expectation is that sometime after that the reporting requirements for the South Atlantic will go into effect. They are still very much involved in a planning process there, so we really don't have an effective date. Nonetheless, my expectation is that our system will be used to do the majority of the data collection in for-hire fisheries.

We'll be working to make sure that we're ready; that we have adequate infrastructure and information systems resources, and that our help desk is stood up and managed so that other systems can be adequately supported.

Beyond that ACCSP is going to continue pretty much status quo. We're about to give you a presentation that will give you a great deal more information about exactly what we're up to.

CHAIRMAN GROUT: Thank you, Mike, any questions on Goal 8? Okay seeing none; I'm going to turn it over to our AOC Chair, to bring forward a motion that we made regarding the Action Plan.

**MR. GILMORE: I would like to move that we approve the 2018 Action Plan.**

CHAIRMAN GROUT: **It does not need a second, because it's a Committee motion. Is there any discussion on the motion? Seeing none; is there any objection to approving the motion? The motion is approved by unanimous consent.**

#### **ELECTION OF COMMISSION CHAIR AND VICE-CHAIR**

CHAIRMAN GROUT: Thank you very much to all of you for putting that together; and now I'm going to turn over the business session to our Executive Director, Bob Beal to conduct our elections.

EXECUTIVE DIRECTOR BEAL: There is a little extra something in Doug's voice there turning over to a new election for a new Chair and Vice-Chair. The way we'll conduct the elections is, in a moment I'll call on Roy Miller, who's the Chair of the Nominating Committee to give the report from the Nominating Committee.

But just as a refresher, we will hand out ballots based on Roy's report, and it's on the ballot there is the individual that Roy is going to bring forward as nominee for Chair and for Vice-Chair, two separate ballots. There is a space for write-ins. That's part of the procedure that the Commission agreed on a number of years ago that we always have the opportunity for

members of the Commission to write in other candidates or other nominees if they so choose.

One vote per state, so each state will get a ballot. Please write your state's name and either the write-in vote or check the box for the individual that is being nominated by the Nominating Committee. With that Mr. Miller, would you provide the Nominating Committee report?

MR. ROY W. MILLER: It would be my pleasure. **On behalf of the Nominating Committee, which consisted of Robert Boyles, David Borden and myself.** I should note that both Robert and David are distinguished past Commission Chairs, so I feel we had an able-bodied committee. We polled the Commission members in our three respective regions, **and we have a name to recommend to you for Chairman of the Commission, and that is Jim Gilmore of New York.**

EXECUTIVE DIRECTOR BEAL: Great thank you. Toni is passing out the ballots now for voting for; this is just for the Chairmanship. Toni collated them, so this is throwing her off. Just hand them both out. Let's hand them both out and we'll make it through. Make sure you fill out the Chairman one for the Chair, and the Vice-Chair for the Vice-Chair.

Pat is going to come around and follow Toni around and pick up the votes for Chairman at this time, and then Roy will count the ballots. If you're ready, he'll move along. Has everyone turned in the ballots for Chairman? Florida is absent. Mr. Miller, do you mind reporting the vote?

**MR. MILLER: It would be my pleasure. The vote was 14 in favor of Jim Gilmore. (Applause)**

EXECUTIVE DIRECTOR BEAL: Congratulations, Jim. Roy, are you willing to provide the nominating report for Vice Chair?

**MR. MILLER: I am. Once again it is my pleasure to recommend for your nomination Pat Keliher of Maine as Vice-Chair.**

EXECUTIVE DIRECTOR BEAL: Thank you, Roy so same drill. You've got your ballots, please fill those out and hand them. Toni is collecting them and we'll have Roy count those up. Mr. Miller, can you present the results of the vote, please?

MR. MILLER: **We are, and I'm happy to report it is 14 to 0 for Pat Keliher.** Congratulations, Pat. (Applause)

EXECUTIVE DIRECTOR BEAL: Thank you and I look forward to working with both of you. It's not too early to start sucking up to the new bosses, so. Tom, one more and I'll get to you in a second. Doug, do you mind coming back up for a moment? On behalf of all the Commissioners and all the staff, Doug, we've got a crystal clock to thank you for your two years of leadership, actually four years if you include the Vice-Chair.

I personally loved working with you. You were always available, always provided great advice. We needed a lot of advice over the last couple years. Doug, I just want to thank you on behalf of everybody here for your two years of service. Thank you. (Applause)

CHAIRMAN GROUT: All I want to say is I want to thank all of you for our support that you provided for Jim and I over these past two years. It has been a difficult couple of years, but we've moved through it and we are, I believe firmly that we are stronger for this, and will continue to move forward under the great leadership of Jim Gilmore. Thank you.

EXECUTIVE DIRECTOR BEAL: Tom Fote, do you have a comment?

MR. FOTE: Yes, I found the procedure a little strange, and I would just like an explanation.

Usually when the Nominating Committee gives their recommendation, and then we basically accept the recommendation. Then we say is there any nominations from the floor. Now there is never any nomination from the floor, but I think procedurally that is the way I'm used to going through the years going on.

It just seems very strange the way we did it this time. Maybe just being me, but that's the way I've seen every election go in every other board and it's been previously the way it was done here. Nobody is going to volunteer from the floor, nobody ever does. But it should have been a format and usually the Treasurer casts the ballot.

The other thing that concerns me, and I looked and we've got three people from the north, and usually we used to alternate, trying north, south. I don't know the reason behind. Maybe I missed the meeting of the Executive Committee where you discussed this. I'm just curious what was going on. Maybe the other Commissioners that weren't at the Executive Committee have to know the reasons what's going on with this. I haven't been reached out to, and I think some of us haven't been reached out to find out what's going on.

EXECUTIVE DIRECTOR BEAL: Procedurally, this is the procedure that the Commission agreed to in 2009, so do the ballots, and have the write-in opportunity. The north/south rotation, I don't know if other folks will want to comment on it. But in the same procedures it's noted that the goal is to rotate north/south/mid, and we try to keep that as available as possible. But when the Nominating Committee talked to all the Commissioners up and down the coast, it appeared the best candidates were the ones that they brought forward this time. Dr. Rhodes.

DR. RHODES: Tom, to that point. The same, we've had that discussion, but we almost feel like there are three areas, and so we feel like

there is New England, Mid-Atlantic and South Atlantic, and we do have a Mid-Atlantic and a New England representative right now, so we've got two of the three areas, which is just the way it's going to work out. I think administratively with the Commissioners in the south. But we still feel like being from the south we don't feel like we are underrepresented, and that's speaking for myself, but I think it's a sentiment across the Board.

EXECUTIVE DIRECTOR BEAL: The other thing, Tom, is the Executive Committee did talk about elections this morning and the nominating process a little bit, as well as sort of who's eligible to become Vice-Chair and Chair of the Commission? Is it proxies, permanent proxies, ongoing proxies, just actual Commissioners, who is it? The Executive Committee is going to open up that process and look at the election. Stay tuned for that.

MR. FOTE: Yes, I mean the last time we had a Governors Appointee as a Vice-Chair was Bonnie Brown, and that's got to be 15 or 20 years ago. There are 45 Commissioners also.

#### RECESS

EXECUTIVE DIRECTOR BEAL: That's a fair point. Is there anything else before the Business Session? All right seeing none the Business Session will be in recess until later tomorrow morning. I forget the time, eleven o'clock or so. We stand in recess right now.

(Whereupon the meeting recessed at 2:32 o'clock p.m. on October 18, 2017)

**ATLANTIC STATES MARINE FISHERIES  
COMMISSION  
BUSINESS SESSION**

**Marriott Hotel Norfolk, Virginia**

**OCTOBER 19, 2017  
THURSDAY SESSION**

The Business Session of the Atlantic States Marine Fisheries Commission reconvened in the Hampton Roads Ballroom V of the Marriott Waterside Hotel, Norfolk, Virginia, October 19, 2017, and was called to order at 11:56 o'clock a.m. by Chairman James J. Gilmore.

**CALL TO ORDER**

CHAIRMAN JAMES J. GILMORE: Okay we're going to move right along, I'm going to invoke my George Lapointe and see if we can do this very quickly.

**CONSIDER FINAL APPROVAL OF NORTHERN SHRIMP AND TAUTOG AMENDMENTS**

CHAIRMAN GILMORE: **We've got a couple of final approvals on amendments that were discussed and approved this week by the boards.** The first one is for northern shrimp, and the next one is for tautog. Do we have a motion for northern shrimp? Doug.

MR. DOUGLAS E. GROUT: **As soon as the motions are up on the board, I will make it for the Shrimp Section. The first motion is to move the Commission approve Amendment 3 to the Northern Shrimp Interstate Fishery Management Plan.**

CHAIRMAN GILMORE: Okay, we have a motion by Doug Grout, is there a second to that motion? Eric Reid seconds the motion. Is there any discussion on the motion? **Is there any objection to the motion? Seeing none; the motion is approved by unanimous consent.**

MR. GROUT: Then I have a second motion that they will bring up, and this will need a second. **My motion is to move the Commission send a letter to NOAA Fisheries and the New England Fisheries Management Council regarding the requirement for size-sorting grates in Amendment 3 to the Northern Shrimp Fishery Management Plan, and if I get a second I'll provide some justification.**

CHAIRMAN GILMORE: Do we have a second for that motion? John Clark. Okay Doug, the floor is yours.

MR. GROUT: The justification is that in our Amendment 3 we have additional size selection grates that are not currently in the groundfish plan. The northern shrimp fishery is allowed to occur under a groundfish plan exemption, which allows for a Nordmore Grate that helps get rid of bycatch of groundfish, get rid of it eliminate bycatch of groundfish species.

We're proposing new designs that could be used that would not only get rid of the bycatch of groundfish species, but also reduce the amount of juvenile shrimp that are caught in the shrimp net. That's going to take a change by NOAA Fisheries and the Council to their groundfish management plan to allow those.

CHAIRMAN GILMORE: **Any questions on that or discussion on that motion? Seeing none; is there any objection to this motion? Seeing none; we will adopt that by unanimous consent.** Okay now we need a motion on the tautog amendment. Adam Nowalsky.

MR. ADAM NOWALSKY: **Prepared to make that motion on behalf of the Board, so we should not need a second. On behalf of the Tautog Management Board, move the Commission approve Amendment 1 to the Tautog Interstate Fishery Management Plan.**

CHAIRMAN GILMORE: Is there any discussion on this motion? **Is there any objection to this**

**motion? Seeing none; we will adopt that by unanimous consent.**

**REPORT FROM THE RESOLUTIONS COMMITTEE**

CHAIRMAN GILMORE: Okay moving right along, the next action item we have is from the Resolutions Committee, and we're going to have a report from Jay McNamee. Jay.

MR. JASON McNAMEE: Good afternoon everyone. We've developed a resolution for you to consider. But first I would like to thank the Resolution Committee. This resolution was a team effort between me, Pat Geer, Representative Sarah Peake, Tina helped us edit, and gave us some good comments.

We also had a special guest contribution from Dennis Abbott, who gave us some great language to include. We tried to capture some of the spirit and funny anecdotes from this past week, and we also wanted to make sure someone who is not able to be with us this week knows that we were thinking of her. With that I would like to offer a resolution for your consideration.

CHAIRMAN GILMORE: Please proceed.

MR. McNAMEE: Whereas the Atlantic States Marine Fisheries Commission celebrated its 76th Annual Meeting in beautiful downtown Norfolk, Virginia, which provided a wonderful setting for the Commissioners, Law Enforcement Officers, Commission staff, and Habitat Scientists to deliberate and discuss fisheries issues of mutual concern.

And whereas the opening plenary session was honored to have guest speaker, Dr. Roger Mann of the Virginia Institute of Marine Science, present a talk titled Fishery Management and Moving Baselines; a stark, eye-opening look at climate change and its role in fisheries management, which reminded Commissioners and guests of the dynamic, exciting, and

challenging field that we have all chosen as our life's work, and that this field will be a work in progress for years to come, leading some of our colleagues to immediately leave the session to either phone their retirement boards or therapists.

And whereas Commissioners, staff and guests were warmly welcomed at the Virginia Aquarium and Marine Science Center reception; and treated to numerous local seafood dishes from the Chesapeake Bay, while being serenaded by whale songs and the relaxing visions of the live exhibits.

And whereas Jeff Beal received the Melissa Laser Award for his work and dedication to Florida's habitat restoration efforts, and whereas Commissioner and host, John Bull, took several opportunities at the podium to make comparisons of the Commonwealth to other states, bless his heart.

And whereas the Annual Dinner was held at the Half Moon Center, offering spectacular views of the Elizabeth River at sunset, while Commissioners and guests drank, ate and were merry to the wonderful sounds of a steel drum band, and whereas the 27th Annual David Hart Award recognized Paul Diodati, retired Director of the Massachusetts Division of Marine Fisheries, for his long commitment to the Commission and his many accomplishments in the field of fisheries management both in Massachusetts and all along the Atlantic Coast.

And whereas 25 brave souls battled the ocean elements 15 miles off Virginia Beach on Sunday, to participate in the 26th Annual Laura Leach Fishing Tournament, guided by the able staff at VMRC and our host and sponsor Rudy Tours, Commissioners, staff and guest dropped their lines but held their lunches to retrieve a myriad of species such as black sea bass, triggerfish, summer flounder, at least one monster toadfish, and even a conger eel.

And whereas, speaking of our friend and colleague Laura Leach, who for the first time in 36 years was unable to attend the meeting, and whose absence was both duly noted and deeply felt by all participants. And whereas, her efforts along with her team at ASMFC, who picked up the ball and ran with it when their friend and colleague needed it most, contributed to another wonderful and successful meeting week.

Now, therefore be it resolved that the Atlantic States Marine Fisheries Commission expresses its deep appreciation to the Virginia Commissioners, John Bull, Catherine Davenport, Senator Richard Stewart, their proxies, Kyle Schick, Joe Cimino, and Rob O'Reilly to the VMRC and Commission staff for their outstanding support and assistance in making the 76th Annual Meeting a great success, in that we the Commissioners wish Laura a continued successful recovery and we look forward to greeting her with a big hug when we meet again in Arlington, Virginia during the 2018 winter meeting.

CHAIRMAN GILMORE: Thank you, Jay, very well said, and on behalf without objection I'll take that and a round of applause for our host. I've already asked John if he will help us plan next year when New York hosts, since he is such a great guy and very entertaining; so you did a wonderful job. I believe that's our last, unless there is other business before. Malcolm Rhodes.

DR. RHODES: I just had one quick question. We're having a South Atlantic Board after lunch today, or after this meeting. We'll probably be bringing forward an amendment for cobia. Since the Business Session will not meet, is there any way to address that prior to the winter meeting?

CHAIRMAN GILMORE: Toni has an answer for you, Malcolm.

MS. KERNS: Well luck would have it, the Atlantic Menhaden Board will be meeting in November, and it's a coastwide Board with this full group of folks, so we can convene into a Business Session after that amendment goes through, fingers crossed, and both the menhaden amendment as well as the cobia amendment can be considered there.

DR. RHODES: Thank you.

#### **ADJOURNMENT**

CHAIRMAN GILMORE: Any other thing to come up before the Business Session? Seeing none; a motion to adjourn, by everyone. Thank you.

(Whereupon the meeting adjourned at 12:07 o'clock p.m. on October 19, 2017)



Draft Proceedings of the Business Session October 2017

**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
BUSINESS SESSION**

**The Marriott Norfolk Waterside  
Norfolk, Virginia  
October 17, 2017**

These minutes are draft and subject to approval by the Business Session  
The Board will review the minutes during its next meeting

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3. **Move the Commission approve Amendment 3 to the Northern Shrimp Interstate Fishery Management Plan** (Page 15). Motion by Doug Grout; second by Eric Reid. Motion is approved by unanimous consent (Page 15).
4. **Move the Commission send a letter to NOAA Fisheries and the New England Fishery Management Council regarding the requirements for size-sorting grates in Amendment 3 to the Northern Shrimp Fishery Management Plan** (Page 15). Motion by Doug Grout; second by John Clark. Motion carries by unanimous consent (Page 15).
5. **On behalf of the Tautog Management Board, move the Commission approve Amendment 1 to the Tautog Interstate Fishery Management Plan** (Page 15). Motion by Doug Grout; second by John Clark. Motion carries by unanimous consent (Page 15).
6. **Move to Adjourn** by consent (Page 17).

**ATTENDANCE**

**Board Members**

Pat Keliher, ME (AA)	John Clark, DE, proxy for D. Saveikis (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
Doug Grout, NH (AA)	David Blazer, MD (AA)
Ritchie White, NH (GA)	Rachel Dean, MD (GA)
Raymond Kane, MA (GA)	Ed O'Brien, MD, proxy for Del. Stein (LA)
David Pierce, MA (AA)	John Bull, VA (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Rob O'Reilly, VA, Administrative proxy
Jason McNamee, RI, proxy for J. Coit (AA)	Chris Batsavage, NC, proxy for B. Davis (AA)
David Borden, RI (GA)	David Bush, NC, proxy for Rep. Steinburg (LA)
Mark Alexander, CT (AA)	Robert Boyles, SC (AA)
James Gilmore, NY (AA)	Malcolm Rhodes, SC (GA)
Russ Allen, NJ, proxy for L. Herrighty (AA)	Spud Woodward, GA (AA)
Tom Fote, NJ (GA)	Pat Geer, GA, proxy for Rep. Nimmer (LA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)	Jim Estes, FL, proxy for J. McCawley (AA)
Andy Shiels, PA, proxy for J. Arway (AA)	Sherry White, USFWS
Roy Miller, DE (GA)	Lindsay Fullenkamp, NMFS

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

**Staff**

Bob Beal	Mark Robson
Toni Kerns	

**Guests**

Heather Corbett, NJ DFW	Jack McGovern, NMFS
Dan Crear, VIMS	Brandon Muffley, MAFMC
Michelle Duval, NC DMF	Derek Orner, NOAA
Lynn Fegley, MD DNR	Chris Wright, NMFS
Ryan Jiorle, VMRC	

The Business Session of the Atlantic States Marine Fisheries Commission convened in the Hampton Roads Ballroom V of the Marriott Waterside Hotel, Norfolk, Virginia, October 18, 2017, and was called to order at 1:25 o'clock p.m. by Chairman Douglas E. Grout.

**CALL TO ORDER**

CHAIRMAN DOUGLAS E. GROUT: Good afternoon everybody, welcome to the Business Session; if you all could take your seat. Before we get into the agenda, John Bullard, the GARFO Regional Administrator, who as you know is retiring shortly; and this may be his last meeting, would like to say a few things to the Commission. John, I'll turn it over to you.

MR. JOHN K. BULLARD: Thank you very much, Mr. Chair, I just have one page here. Hello all you all. Bless your heart. Five years ago I attended this meeting to introduce myself; so at this meeting it's time to say goodbye. The ASMFC has made incredible progress; thanks to Commissioner John Bull just in the last year.

You have found ways to introduce heat into the rooms in which we meet, and so people can make motions without having to wear gloves to do so. I've learned an awful lot. I think the first meeting I learned at high volume from Dr. Daniel about the shortcomings on our sturgeon policy; still don't have an eardrum.

But we have as we learned this morning, made an awful lot of progress in sturgeon, and progress in a lot of other areas as well. I really do value a lot of lessons that I've learned from attendance at these meetings. You all have made some very tough decisions around these tables. There was one; I think it was in Baltimore on menhaden.

But those tough decisions are necessary to rebuild fisheries. You've done that. Not just with menhaden. From my vantage point in the audience, I can listen to the debate and I can

see the looks around the table. I can see how you hold yourselves accountable, how you help each other resist the pressures that you have all felt at one time or another.

I see how you support each other to do what is right. It's a very valuable lesson for me and for all of us. I've enjoyed our partnership in this effort, working with you on tough issues like for example southern New England lobster with my grade school schoolmate David Borden, who lives across the river from me as we try to transition that industry from lobster to Jonah crab.

That's just one example of the partnership that we have with you. I've seen this partnership, this very important partnership get very sorely tested with summer flounder. My remarks in the Boston Globe several months ago got me in hot water with my bosses, so I don't think I should comment any more on that. You can go read it if you want. But Chairman Grout's comments last night at dinner, I think your remarks Mr. Chairman were right on the money. I'm glad you have a meeting set up with Secretary Ross. I fervently hope that this is a one-time occurrence, and everyone here will work to make that breakdown a singular exception. Because we face many challenges that will require our wonderful, decentralized system of managing fisheries work, we have a lot of challenges.

You all know them as well or better than I do. There are still issues with summer flounder, black sea bass, and other fisheries. There is the issue of climate change, which you have helped educate us, and the regional fishery management councils on. It's causing havoc in so many ways. The issue of allocations has to be faced.

The issue of forage fish has been mentioned here. Just this morning Bob Beal mentioned competing ocean uses. There are of course others. This partnership that we have is very

important. There are some “thank-you’s” that I want to offer, Mr. Chairman. It could take all day and I don’t want to.

But I do want to mention in particular on state directors. It was at a meeting we had with state directors out in San Diego that Paul Diodati, who was deservedly honored at lunch, said to leadership at NOAA Fisheries that we aren’t partners with state directors, state directors are our allies. That is a very good use of that term.

I’ve certainly felt that we are in the trenches with state directors. I’ve felt that and I’ve enjoyed the relationships that I’ve had with the state directors confronting problems in my region. As I’ve done that with each and every one of you, I’ve developed profound respect and become friends, maybe possible exception Commissioner Martin, bless his heart.

But in all seriousness, Russ, come on. I can’t start laughing now, Russ. The respect I have for you is so high for the jobs you do, the difficult jobs you do. Secondly, the staff at ASMFC, Bob, Toni and all of the team under ASMFC, wow, it’s every time it seems that we have a problem at NOAA Fisheries, where we need something done.

You know I pick up the phone and call Bob. You know if it’s distribution of disaster assistance; if it’s reimbursement for at-sea monitoring, if it’s help with fishery dependent data visioning with the partnership that we both have with ACCSP and Mike and his team. The professionalism, the dedication, the expertise, the passion, you know they’re an extension of our team.

It’s so wonderful to work with, you know this Mr. Chairman, but I want to tell you we know it too. It’s just a great team to work with, the staff here. Lastly, I want to say our team here at NOAA that I have the honor of working with. I was going to serve two years at NOAA Fisheries. If I were a carton of milk, I would be something you would stay very far away from,

well past my expiration date. But I’ve stayed because my staff is so fantastic.

The two Mikes, Mike Petney, Mike Ruccio, I’m going to leave people out but Peter Burns, Ali, Chip, Kelly, Lindsay, Lynn, Derrick, others who have been at this microphone. You’ve gotten to know them well, and I’m sorry that I’ve left some out. But there have been so many who’ve shown you their dedication and their passion for this job; their expertise, their knowledge. I never cease to be amazed. I go home every night my brain hurts just trying to keep up with them. I can’t possibly do that. But it is an honor for me to work alongside them. When I look up above me, at people like Sam Rauch, and the leaders there, I feel lucky to work for them. I think you’re in good hands as I look around the administration at our political leadership. Chris Oliver, you know we’ve drawn the long straw in a lot of people. Chris Oliver knows fisheries for decades and decades in both the Gulf of Mexico and in Alaska.

Admiral Gallaudet, who just started work this week, is going to be very, very good at NOAA. I think you’ll take the measure of Secretary Ross when you meet with him. But I think he’s a numbers guy, and we’re a numbers agency. I think he’s strong. I think we’ve got a strong team. I think we can hold our end of the partnership up.

With that Mr. Chairman, I do hope occasionally I’ll run into you all again. It’s been a real pleasure and an honor to work with you. We have such an important mission. I come from a seaport, New Bedford. I know the stakes and the difficulty, and the importance of our work; and I wish you the best as you carry on that most important mission. Thank you very much, Mr. Chair.

CHAIRMAN GROUT: Thank you very much, John. (Applause) John, I just want to recognize you and thank you for all that you have done to promote and support the partnership that we

have between the Commission and GARFO. I've seen many, many things that you've done over the years that you have supported our work, you've supported our communication, you've supported our co-management, and you have been an ally as we have tried to be an ally in your work. Thank you very much, John and good luck in your retirement. (Applause)

#### **APPROVAL OF AGENDA**

CHAIRMAN GROUT: Okay, we now have an agenda before you. Are there any changes to the Business Agenda? Seeing none; are there any objections to approving the agenda? It is approved by unanimous consent.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN GROUT: We also have proceedings from our May meeting. Are there any changes or edits to that May meeting minutes? Seeing none; is there any objection to approving the minutes? They are approved by unanimous consent.

#### **PUBLIC COMMENT**

CHAIRMAN GROUT: We also have an opportunity here for public comment for things that are not on the agenda. Is there anybody in the public or the audience that would like to speak on things not on the agenda?

#### **REVIEW AND CONSIDER APPROVAL OF THE 2018 ACTION PLAN**

CHAIRMAN GROUT: Seeing none; we'll move into Review and Consider Approval of the 2018 Action Plan. Bob.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Just all the staff up here we'll go through the individual sections. But a lot of times we present a budget associated with this action plan, and we don't have that together this year. But we have done the rough analysis, and it looks like we can afford everything that's in here. That is the good news.

The bad news is, if you want to add things in here, we probably need to do some horse trading and swap some things out. As the staff is running through it, if there are significant financial expenditures that need to be added, we're going to need to think about that a little bit how we can cover those expenses. With that I think Toni can go through Goal 1, if that's okay, Mr. Chairman.

CHAIRMAN GROUT: Sounds good, Toni.

MS. TONI KERNS: What I'm going to do is go through the bolded actions, and I think that's what all of us up here will be doing today. These are new items that we're going to be taking on. Other work is stuff that we have either started or is something that is consistent from year to year within the plan. I'll go to Goal 1, which is our ISFMP goal, and starting with American eel. We'll consider a management response to the 2017 assessment findings, which the Board heard earlier this week, and look to do a management document on allocations and quotas specific to the yellow and glass eel fisheries.

We'll also have the Technical Committee or some folks from the Technical Committee, not the full, evaluate the monitoring efforts to identify gaps and the value of existing surveys for assessment and management use. The American Lobster Board will finalize and implement Addendum XXVI; which is looking to improve harvester reporting and biological data collection in state and federal waters.

This will also apply to the Jonah crab fishery as well. We'll look at Addendum XXVII, which considers standardization of the management measures in the Gulf of Maine and Georges Bank stock, and develop a strategy for management of the southern New England stock that considers the record low abundance of the stock, and preserves a function of a portion of the fishery, acknowledging the

effects of climate change on the lobster resource.

The TC will initiate the 2020 benchmark stock assessment. While it's not in this document for Atlantic herring, we did task the TC to look into the efficacy of all of the management goals and objectives of the spawning closures, using the GSI forecasting system. For Atlantic menhaden, we will be initiating the 2019 benchmark stock assessment. For Atlantic sturgeon, we will monitor the state and federal activities in response to the Endangered Species Act listing of the Atlantic sturgeon, including the five-year-review status, which we heard about this morning.

In bluefish, we'll be collaborating with the Mid-Atlantic Council to initiate the development of an amendment that would address allocation in the bluefish fishery, as well as collaborate with the Council and the Science Center to complete an operational stock assessment pending the availability of the new MRIP program estimates, and then consider a management response to the assessment findings in conjunction with the Council.

For coastal sharks, we'll monitor the stock assessment results for sandbar and mako sharks, and provide a Technical Committee recommendation to those assessments, and then do a management response if we need some complementary management actions with HMS. Under shad and river herring, we'll be initiating the 2019 American shad benchmark stock assessment; and we'll be monitoring the activities of the ESA review of river herring.

We'll also review and update the American shad habitat plans as required by Amendment 3. For both Atlantic croaker and spot, we will be conducting the analysis to explore and potentially update the traffic-light analysis, which includes additional indices or age-

composition information as a possibility for inclusion.

Cobia, we will implement the cobia FMP and work with the South Atlantic Fishery Management Council, as well as NOAA Fisheries, to ensure complementary regulations between state and federal waters, if the Board approves a cobia FMP this week. We'll also collaborate with the SEDAR to conduct a stock identification workshop, in preparation for the 2019 benchmark stock assessment, which we will also initiate. For scup we will collaborate with NOAA Fisheries and the Science Center to finalize the 2018 operational assessment pending the availability of updated MRIP information, and then consider a management response as necessary. The same for black sea bass, and we will also, if made a priority by the Mid-Atlantic Council (and this will be discussed at the December meeting), collaborate with the Council to initiate a black sea bass amendment that would consider management of the entire fishery. Then for weakfish, I have a correction. It should say initiate the development of the 2019 stock assessment update.

We're going to do an update this year, but due to the MRIP data coming out in either the late summer or fall of this year, and because that assessment has such a reliance on recreational CPUE, we thought it best that we wait and get that information first and then do the update. For winter flounder, the Board will review the 2018 GARM stock assessment results for inshore winter flounder, and consider management response in coordination with the New England Fishery Management Council, as well as GARFO.

Then scrolling down into Section 1.2, we'll collaborate with NOAA Fisheries and the Secretary of Commerce, to ensure transparency and the integrity of the Atlantic Coastal Fishery Cooperative Management Act as provisions are preserved, including seeking opportunities to collaborate with NOAA Fisheries as it conducts



the ESA status reviews for sturgeon and river herring.

We will also take the next steps in response to the Commission's climate change white paper to address fisheries impacted by climate change; and we'll be discussing that later this week at the Policy Board. We will also work with NOAA leadership to better understand the impacts to state management programs; given the movement towards increased recreational flexibility.

We'll be seeking ways to address the concerns of the recreational community with regards to Commission managed and jointly managed species. As a part of this the Commission will assist in conducting and participate in the NOAA Fisheries 2018 National Recreational Summit. We will also respond to the new MRIP estimates as needed across all of our Commission managed species; and I will pass it off to Pat for Goal 2, Science. I'll take questions first.

CHAIRMAN GROUT: Pat.

MR. PATRICK C. KELIHER: Toni, you made note of the herring issue from a budgetary perspective. If there was a need for an addendum are we going to be okay?

EXECUTIVE DIRECTOR BEAL: Pat, if it's only three hearings up in your neck of the woods that's not a real great expense; one trip up, a couple nights in a hotel. We can probably accommodate that no problem.

CHAIRMAN GROUT: Are there any other questions for Toni on Goal 1? Seeing none; Pat.

MR. PAT CAMPFIELD: Goal 2 covers the fisheries science research and stock assessment activities of the Commission. New activities include a collection of more spot age data; as well as pursuing improved sturgeon bycatch monitoring in state waters. Those were both

research recommendations that came out of stock assessments completed this year.

In terms of the overall stock assessment workload, it looks pretty heavy for 2018; including benchmark assessments for sea herring, horseshoe crab, northern shrimp, striped bass, and summer flounder as well as initiating a benchmark assessment for American shad. We will also conduct assessment updates for spiny dogfish, and initiate an update for weakfish. Tied to a few of those benchmarks, the Commission will organize and conduct peer reviews for the horseshoe crab, northern shrimp, and possibly the striped bass stock assessment.

We need to figure out if that's going to be an ASMFC or SARC review. Another new task is to develop a long term vision for scientific initiatives within the Commission's next five-year-strategic plan; and that is a task that will be spearheaded by the Management and Science Committee, and the Assessment Science Committee.

Moving down to Task 2.18, consult with the Assessment Science Committee on a red drum stock assessment guidance, and develop a road map for improving data collection and future assessment for the South Atlantic Board. Also, monitor the progress of cobia research projects, and contribute to the Stock ID workshop in preparation for that assessment in 2019.

We've also added a task to partner more closely with the U.S. geological survey; to identify shared priorities and opportunities for enhanced scientific support to the Commission. Much of the activities under NEMAP and SEAMAP are the same. Under fish aging activities, it's not bolded in this copy, but we will hold an aging workshop for American eel in 2018.

Under the Committee on Economics and Social Sciences, they will continue their work to

develop new ACCSP socioeconomic data standards, and that's already underway. We have also added a task to track progress and distribute information on Citizen Science initiatives, including through the South Atlantic Council, Gulf of Maine Research Institute, and other entities. Finally, under the Commission's Stock Assessment Training Program, we will hold trainings both at the introductory level and advanced stock assessment training in 2018.

CHAIRMAN GROUT: Are there any questions for Pat on Goal 2? David, thank you.

DR. DAVID PIERCE: Just a clarification on Task 2.3.4, track the progress and distribute information on Citizen Science Initiatives through those different groups. What is the thinking regarding these specific initiatives? Citizen Science Initiatives are something new that we're going to entertain? Explain a little bit as to why this task is in it if you would.

MR. CAMPFIELD: A couple of examples include, with GMRI they have a Snap a striper program, which is something that we've highlighted in Fisheries Focus. It's simply not for the Commission to initiate these fairly local programs, but to be a centralized place to understand what's going on up and down the coast, and explore their utility, either for technical processes, or to advise fishery management.

CHAIRMAN GROUT: John.

MR. JOHN CLARK: Pat, could you just expound a little bit on what the ACCSP Socioeconomic Data Standards are, and how those will be used in the upcoming addendums and amendments?

MR. CAMPFIELD: For starters, the program, and Mike feel free to jump in, but ACCSP has a very short list of standards that they developed way back in the late '90s, and although it continues to be a program priority, there are some socioeconomic data that have come into ACCSP,

but it's not at the same level as the catch and effort bycatch data. In order to promote more socioeconomic data coming in from the states and federal partners, we need to develop standards, and that's something that Shanna Madsen as our SESS Coordinator has worked with ACCSP to get that ball rolling this year. We hope to finish it this year; and part of the objective is to provide that baseline information to fishery management plans on different socioeconomic indicators. That's part of the longer goal.

CHAIRMAN GROUT: Are there any other questions on Goal 2; Goal 3, Toni?

MS. KERNS: Goal 3 is our promoting compliance within our fishery management plans, so Goal 3 looks at Activities of our Law Enforcement Committee, and there are fewer bolded tasks here, but still lots of great work going on from the Law Enforcement Committee, especially in response to any items that will come out of management boards.

But they will be evaluating the effectiveness of the commercial tagging programs and systems, and user compliance in particular with tautog. We won't initiate that tagging program until 2019, but we'll still be working with Law Enforcement to make sure that the program that we put together does not have any enforcement loopholes. I'll be reviewing and providing input on enforcement issues associated with the American eel or any other aquaculture programs and proposals; and that is it.

CHAIRMAN GROUT: Questions on the Goal 3. Seeing none; Goal 4, Fish Habitat.

MS. KERNS: I'm going to tag team this with Pat. He'll cover the ACFHP portions of the habitat goal and I will do the Commission's Habitat Program. Habitat is actually currently meeting right now, and they will be publishing a Habitat

Management Series. They are still determining what that topic will be.

We will fill this in once they have made that decision later today. We will also be developing outreach materials on the benefits of habitat to fish productivity, for nontechnical audiences; and this is geared at stakeholders, the media, and the general public to be handed out at tradeshows and such. I'll pass it over to Pat.

MR. CAMPFIELD: Quickly on the Atlantic Coastal Fish Habitat Partnership, just a few new activities. One to update their website, the second very large task, to conduct habitat mapping projects both in the Southeast and Northeast Regions. Finally, to take their species habitat matrix, this was currently in a journal publication format, and moved that to an online searchable format.

MS. KERNS: Then we'll be also identifying important fish habitats for Commission managed species, including information on a 2018 Habitat Management Series document that's called Important Fish Habitats. This is sort of taking all of what we currently call habitat areas of concern, HAPCs, in which the Habitat Committee is developing new language to address that topic, as directed by the Policy Board. Then we're going to put all of those, whatever the new term is, into one document for easy reference. That is all.

CHAIRMAN GROUT: Are there any questions on Goal 4? Seeing none; Goal 5, is that you, Tina?

MS. TINA BERGER: Goal 5 addresses our stakeholder and public support for the Commission and specifically our outreach initiatives. You'll see much of the content remains from last year as ongoing activities. New to this year is a focus on collaborating with NOAA Fisheries MRIP staff and communicating improvements and changes to the MRIP.

We will be publishing our 2017 Annual Report, continue to work with the science staff on

preparing and distributing assessment overviews and focal species for next year are herring, striped bass, horseshoe crab, northern shrimp, and summer flounder. We're going to explore this year doing some quarterly, topic driven webinars, to engage and inform the public about our current activities.

We'll focus each quarterly webinar in a different aspect of Commission programs for management, science, habitat, and data collection. I'll be working with the Commission staff to further improve our messaging and communication skills with media; as well as strengthening our ability to provide a written content that is accessible for nontechnical audiences. We will be updating our website early in the year to just improve functionality, and include new content on ACCSP, cobia, as well as a Fisheries Management 101 Page, and that's it for outreach.

CHAIRMAN GROUT: Questions on Goal 5? Loren.

MR. LOREN W. LUSTIG: Thank you very much for the information just relayed to us about how we relate to the public; and how we can help them to understand more, ideally, what we are actually doing and why we're doing it. I was especially interested in the consideration regarding webinars.

I participated in some of those in Pennsylvania, with the Pennsylvania Game Commission, and other agencies. I'm wondering if there is an opportunity here for us to reach out to high school or college science like classes, so that they can get a grasp on our role in changing environment.

For example, there is a program in Maryland called Grasses in Classes, where kids get involved in the production and planting of submerged aquatic vegetation. There is a program in Pennsylvania that encourages science students to raise trout; and release

them in our streams. Is there anything that we can do that would be similar to those two programs?

MR. BERGER: We do make an effort to go to various graduate and undergraduate programs and talk about the Commission and fisheries management in general. We have also increased our outreach to sportfishing clubs. In terms of reaching out to high school or science classes, specifically in terms of hands on stuff, we have not. But we could certainly talk about it at the staff level, and see where we could involve ourselves in those activities to a greater extent.

CHAIRMAN GROUT: Other questions on this goal? David.

MR. DAVID E. BUSH, JR.: This relates to Goal 5, but may also be like 3.11 or 12. It has to do with specifically cohiba in this particular instance. But you're getting a lot more stakeholders that are doing their homework. They're hitting the books. They've trying to understand what's going on. Some of them may or may not be able to join the different committees and panels, and feel like you know they've done their homework and might have a different opinion. I know we can't chase every rabbit down every hole. But in instances where they've put substantial effort forth to do some research and would like some return answers on why or why not information may or may not be included. I think a good way to maybe strengthen that support, you know where we're going back home to our constituents or our stakeholders and they're like, well I sent it in and I didn't hear anything back.

It's now in public record and it may or may not go away. Is there a mechanism in which we could possibly, at least somewhat address what they're sending in, and make that visible to the folks around the table as well? A lot of the things that they've brought forward you may or may not have merit, and I wouldn't know that.

It would be probably a technical committee of some sort, or science committee that would be looking at it and seeing that okay this applies, this doesn't and here is why. But again, I'm just looking if there is a mechanism in place already that I'm not aware of that would help to answer those questions, and maybe put some of the ideas to rest that they have or say that they have merit and include them.

EXECUTIVE DIRECTOR BEAL: David, if we get specifically asked something from a member of the public, you know we try to respond to that. I think it's almost a volume issue that we wrestle with in that we have tens of thousands or at least 10,000 comments on menhaden already. I don't know where Megan is; she's probably summarizing menhaden comments. But during public comment periods, I don't think we have the sort of bandwidth to respond to all the different things that come in, and those different comments.

But the sort of one-off letters that we get that asks us for specific actions or brings forward specific information. We try to respond to those as well as we can. The Technical folks don't necessarily have time to run each of those letters by a technical committee and those sorts of things. But we can definitely make as much of an effort as possible to respond to those letters; just we can't keep up with everything.

CHAIRMAN GROUT: Toni.

MS. KERNS: In addition to that David, for assessments we do put an open call out to the public on providing data or working papers, and those do get addressed by the Committee, whether or not they get included and why they do or do not get included. That is another process, especially where a response will come back for someone that's done a lot of research and done their homework.

CHAIRMAN GROUT: Further questions on this goal? Goal 6, is that you, Bob?

EXECUTIVE DIRECTOR BEAL: I'll give it a shot. Goal 6 is the Legislative work that we do, Capitol Hill work that Deke and I handle with the assistance of many of your folks. A lot of it is ongoing activities that we do every year with reaching out to the Hill and then creating those relationships.

But there are a few specific new tasks this year, the first of which is Gulf of Maine lobster. There is some budget language in there, and some report language that does include some funds for Gulf of Maine lobster; look at some of the impacts and environmental changes. We've worked with Pat Keliher on that. We'll engage the Commissioners in the formulation of the Commission positions on legislative policies, including the Magnuson-Stevens Act Reauthorization documents. There are a few versions out there right now on the House side. If there is a need, we can reach out to you all and then just solidify an ASMFC position if there is one. It's probably a little bit scattered up and down the coast.

Moving on to Task 6.4.3, the next suite of new tasks are reacting and responding to the Atlantic Coastal Act Provisions, and ensuring that transparency is maintained, and then the policy and funding issues. Obviously we communicate the funding priorities for the states, and it goes on to develop relationships with the Secretary of Commerce and Assistant Administrator for NOAA Fisheries.

Meeting with the Secretary to talk Atlantic Coastal Act, which we're doing next week, and also talking again about the priorities for the Commission and the funding, including horseshoe crab survey that we've been able to fund the last couple of years, so that's good news. The bad news is it's not permanently part of the budget, so we have to go out there and make sure the dollars are available every year for the Horseshoe Crab Survey. Those are the highlights of our Capital Hill outreach

activities. I can answer any questions if there are any, Mr. Chairman.

CHAIRMAN GROUT: Malcolm.

DR. MALCOLM RHODES: Just one question. The Delaware Bay, is that specifically the Virginia Tech Survey?

EXECUTIVE DIRECTOR BEAL: Yes.

CHAIRMAN GROUT: Tom Fote.

MR. THOMAS P. FOTE: It was always helpful when I went to a Congressional office to have as much information as I could; and the last year I was able and I went through and actually even state legislators. When Southwick's did the breakdown of recreational fishing by numbers, and every Congressional District, which they did in every state, it was very helpful to walk in with that economic breakdown.

I wish I had it for the commercial fishery, because it would have been really important, especially in New Jersey. But when you find out you've got 66,000 anglers in your district, even though you're in the middle of a state that's not even near the water, and made a big point. The old books we used to put together with all the fishery plans in it, the information on the species and things like that always made a nice presentation to give into the office with those types of sheets.

It would be nice if we had the same thing on the commercial side as we have on the recreational, because those numbers mean money to the Congressional Districts, but we also use it for the state legislature, because they know which congressional district they're in, they can see the breakdown of money to do that. That would be helpful also.

EXECUTIVE DIRECTOR BEAL: Tom, we can pull those together for you, you know any specific meetings you have let us know. We can pull

some information together. Deke and I usually bring sort of the state level economic impact data with us when we go up to the Hill; you know talking recreational impact, commercial impact. A number of jobs on the commercial side, a number of trips on the recreational side, those sorts of things, we haven't broken it down to individual districts. We usually have been talking at the state level. But we can break it down further if it's available.

CHAIRMAN GROUT: Follow up, Tom?

MR. FOTE: Yes, it's already broken down. Southwick's put that all together, so they have it all over for all the states up and down the coast. I can get you that information if you need it.

EXECUTIVE DIRECTOR BEAL: Great, thank you.

CHAIRMAN GROUT: Dave Pierce.

DR. PIERCE: Task 6.3.5, Engage Commissioners in the formulation of the Commission's position on federal legislative policy, including pending MSA Reauthorization legislation. When might that engagement occur? I mean there are some bills out there now being considered. Maybe we'll get something this time around.

There certainly is one notable suggestion regarding how to deal with recreational fisheries. The New England Council, maybe the other Council is taking a position on MRIP and how effective it is for monitoring recreational fisheries catch. I just suggest that our leadership needs to decide when we should weigh in on that particular legislation.

I suggest in particular when we should weigh in on that aspect of possible changes in the Magnuson Act, specific to how we manage recreational fisheries, because let's face it, when it comes to how they're managed, it really falls into the lap of ASMFC. The council's tend to be rather broad brushed. What should

be done in federal waters, and it's really what happens in state waters for the most part.

This has great implications. This particular legislation, this particular bill on recreational fisheries, potentially has some rather significant implications for how we do our business. Again, when the leadership, you feel it's necessary to weigh in, please take the initiative to have us do so.

EXECUTIVE DIRECTOR BEAL: Yes, I think we're getting close to that point, David. Like I said there are a few house versions that are swirling around right now. In talking with some of the staffers on the House side, it sounds like they're going to try to merge those different drafts into a single draft. I think once you get to that point it is probably a good opportunity for the Commission to chime in on what's there, so we can reach out to you once we see that.

CHAIRMAN GROUT: Are there any other questions on this goal? Seeing none; who is going to do finance? Okay, Bob.

EXECUTIVE DIRECTOR BEAL: Goal 7 is the Finance and Administration of the Commission. Most of these are things that we do every year. Not to say it's not a lot of work, it is a lot of work. But they are just the care and feeding to keep this whole business going. There are a couple new tasks buried in here. We're going to focus training for new staff on how to use some of our electronic tools, such as new data bases and software packages and other things that we have at the Commission, to make sure everybody is up to speed on those. We're looking at software packages to help digitize some of our accounting procedures and billing processes, and contracts database to track all the details of the multiple contracts.

As we have more and more of these cooperative agreements with NOAA Fisheries, we end up with more and more projects and tracking all those is getting more and more

cumbersome each year. We're going to develop a database to make that much more efficient. We're going to do a training workshop for staff on meeting facilitation to help enhance committee productivity and performance.

We're considering engaging an outside consultant to work on staff culture, and looking at better ways to do performance reviews and feedback to staff throughout the year. We do once a year performance reviews right now, and a lot of businesses and agencies are getting away from that and doing different ways to evaluate performance.

We're going to look into that and see if there is a better way to do that for the Commission, and then at the very end 7.6 is a new strategic plan. Our current plan goes through the end of next calendar year, so during next calendar year we need to develop the next five-year plan. It would be 2019 to 2023.

The Executive Committee talked about this briefly this morning, and the course that they are suggesting that you take is have a couple hours at the February meeting to have all the Commissioners brainstorm on where we are with our current strategic plan. Do we need to just trash what we have and start all over and blow the things up; or is it just some minor course corrections and tweaks that we need?

I think the major tasks that we've already talked about so far are fundamental to what we do, fish management, fish science outreach and Congressional outreach, habitat, Law Enforcement, et cetera. I think those pieces of the strategic plan are set, but what other things do the Commissioners want to change and we'll explore that in a workshop in February, and then based on the outcome of that workshop, we'll decide what the course is for the remainder of the year for the strategic plan. That's Goal 7, Mr. Chairman.

CHAIRMAN GROUT: Jim Gilmore.

MR. JAMES J. GILMORE: Robert Boyles had a good suggestion this morning for our meeting efficiency, and maybe bringing our parliamentarian back in to give us some education. Is that going to be on the budget for 2018, or are we going to have to kick that down the road until 2019?

EXECUTIVE DIRECTOR BEAL: We can probably afford to bring Colette in for a half day or something. A refresher for Commissioners on meeting efficiency, I guess is what you guys were looking for this morning. We can probably do that. Some of this budget is a little bit uncertain. We don't know exactly what we're going to get from Congress, and we're going to have some rollover dollars from this year to next. The one thing I should have said at the outset about the budget is we adjusted the overhead rate for the Atlantic Coastal Act. We actually reduced the overhead taken out by the Commission. Our ability to afford to conduct all these activities does relate back to the fact that we reduced overhead and we had a few more dollars available for programmatic activities than we have in the past. Everything keeps getting more expensive, but we've been able to keep it going so far.

CHAIRMAN GROUT: Are there any other questions on Goal 7? Okay we'll move to Goal 8, Mike.

MR. MIKE CAHALL: Here I am. Good afternoon.

The ACCSP Action Plan is actually based on the ACCSP Strategic Plan. Coincidentally it expires at the same time that the Commission's plan does, and I believe our intention is to integrate the plans together as part of the upcoming strategic planning process.

Thus, this plan is slightly different in its depth than the Commission's plan was. But essentially it's a status quo plan. There aren't

any significant new efforts, in the sense that we're going to go out and discover something new or build something new. However, I want to bring just a couple of things to your attention.

In terms of our data warehousing, we're going to continue to improve on our data query interface, which you all will see shortly, and try to bring in additional, especially biological datasets. The Coordinating Council approved an additional FTE for us that should help to facilitate that process.

We're going to continue to work with our program partners to keep our standards current. As we've worked with them to bring in additional data, especially in the trip reporting arena, we've had to make some adjustments to the data standards, specifically to our coding schemes, to be able to better identify gears and those kinds of things.

We also will be working really hard. I think the single biggest focus of the program probably for the next year is going to be implementing for-hire reporting. We are working with the Mid-Atlantic and the South Atlantic Councils to complete modifications to our trip tool, in order to be able to accommodate their requirements.

As most of you are aware, the new reporting requirements for Mid-Atlantic go into effect in March of next year. Our expectation is that sometime after that the reporting requirements for the South Atlantic will go into effect. They are still very much involved in a planning process there, so we really don't have an effective date. Nonetheless, my expectation is that our system will be used to do the majority of the data collection in for-hire fisheries.

We'll be working to make sure that we're ready; that we have adequate infrastructure and information systems resources, and that our help desk is stood up and managed so that other systems can be adequately supported.

Beyond that ACCSP is going to continue pretty much status quo. We're about to give you a presentation that will give you a great deal more information about exactly what we're up to.

CHAIRMAN GROUT: Thank you, Mike, any questions on Goal 8? Okay seeing none; I'm going to turn it over to our AOC Chair, to bring forward a motion that we made regarding the Action Plan.

**MR. GILMORE: I would like to move that we approve the 2018 Action Plan.**

CHAIRMAN GROUT: **It does not need a second, because it's a Committee motion. Is there any discussion on the motion? Seeing none; is there any objection to approving the motion? The motion is approved by unanimous consent.**

#### **ELECTION OF COMMISSION CHAIR AND VICE-CHAIR**

CHAIRMAN GROUT: Thank you very much to all of you for putting that together; and now I'm going to turn over the business session to our Executive Director, Bob Beal to conduct our elections.

EXECUTIVE DIRECTOR BEAL: There is a little extra something in Doug's voice there turning over to a new election for a new Chair and Vice-Chair. The way we'll conduct the elections is, in a moment I'll call on Roy Miller, who's the Chair of the Nominating Committee to give the report from the Nominating Committee.

But just as a refresher, we will hand out ballots based on Roy's report, and it's on the ballot there is the individual that Roy is going to bring forward as nominee for Chair and for Vice-Chair, two separate ballots. There is a space for write-ins. That's part of the procedure that the Commission agreed on a number of years ago that we always have the opportunity for



members of the Commission to write in other candidates or other nominees if they so choose.

One vote per state, so each state will get a ballot. Please write your state's name and either the write-in vote or check the box for the individual that is being nominated by the Nominating Committee. With that Mr. Miller, would you provide the Nominating Committee report?

MR. ROY W. MILLER: It would be my pleasure. **On behalf of the Nominating Committee, which consisted of Robert Boyles, David Borden and myself.** I should note that both Robert and David are distinguished past Commission Chairs, so I feel we had an able-bodied committee. We polled the Commission members in our three respective regions, **and we have a name to recommend to you for Chairman of the Commission, and that is Jim Gilmore of New York.**

EXECUTIVE DIRECTOR BEAL: Great thank you. Toni is passing out the ballots now for voting for; this is just for the Chairmanship. Toni collated them, so this is throwing her off. Just hand them both out. Let's hand them both out and we'll make it through. Make sure you fill out the Chairman one for the Chair, and the Vice-Chair for the Vice-Chair.

Pat is going to come around and follow Toni around and pick up the votes for Chairman at this time, and then Roy will count the ballots. If you're ready, he'll move along. Has everyone turned in the ballots for Chairman? Florida is absent. Mr. Miller, do you mind reporting the vote?

**MR. MILLER: It would be my pleasure. The vote was 14 in favor of Jim Gilmore. (Applause)**

EXECUTIVE DIRECTOR BEAL: Congratulations, Jim. Roy, are you willing to provide the nominating report for Vice Chair?

**MR. MILLER: I am. Once again it is my pleasure to recommend for your nomination Pat Keliher of Maine as Vice-Chair.**

EXECUTIVE DIRECTOR BEAL: Thank you, Roy so same drill. You've got your ballots, please fill those out and hand them. Toni is collecting them and we'll have Roy count those up. Mr. Miller, can you present the results of the vote, please?

MR. MILLER: **We are, and I'm happy to report it is 14 to 0 for Pat Keliher.** Congratulations, Pat. (Applause)

EXECUTIVE DIRECTOR BEAL: Thank you and I look forward to working with both of you. It's not too early to start sucking up to the new bosses, so. Tom, one more and I'll get to you in a second. Doug, do you mind coming back up for a moment? On behalf of all the Commissioners and all the staff, Doug, we've got a crystal clock to thank you for your two years of leadership, actually four years if you include the Vice-Chair.

I personally loved working with you. You were always available, always provided great advice. We needed a lot of advice over the last couple years. Doug, I just want to thank you on behalf of everybody here for your two years of service. Thank you. (Applause)

CHAIRMAN GROUT: All I want to say is I want to thank all of you for our support that you provided for Jim and I over these past two years. It has been a difficult couple of years, but we've moved through it and we are, I believe firmly that we are stronger for this, and will continue to move forward under the great leadership of Jim Gilmore. Thank you.

EXECUTIVE DIRECTOR BEAL: Tom Fote, do you have a comment?

MR. FOTE: Yes, I found the procedure a little strange, and I would just like an explanation.

Usually when the Nominating Committee gives their recommendation, and then we basically accept the recommendation. Then we say is there any nominations from the floor. Now there is never any nomination from the floor, but I think procedurally that is the way I'm used to going through the years going on.

It just seems very strange the way we did it this time. Maybe just being me, but that's the way I've seen every election go in every other board and it's been previously the way it was done here. Nobody is going to volunteer from the floor, nobody ever does. But it should have been a format and usually the Treasurer casts the ballot.

The other thing that concerns me, and I looked and we've got three people from the north, and usually we used to alternate, trying north, south. I don't know the reason behind. Maybe I missed the meeting of the Executive Committee where you discussed this. I'm just curious what was going on. Maybe the other Commissioners that weren't at the Executive Committee have to know the reasons what's going on with this. I haven't been reached out to, and I think some of us haven't been reached out to find out what's going on.

EXECUTIVE DIRECTOR BEAL: Procedurally, this is the procedure that the Commission agreed to in 2009, so do the ballots, and have the write-in opportunity. The north/south rotation, I don't know if other folks will want to comment on it. But in the same procedures it's noted that the goal is to rotate north/south/mid, and we try to keep that as available as possible. But when the Nominating Committee talked to all the Commissioners up and down the coast, it appeared the best candidates were the ones that they brought forward this time. Dr. Rhodes.

DR. RHODES: Tom, to that point. The same, we've had that discussion, but we almost feel like there are three areas, and so we feel like

there is New England, Mid-Atlantic and South Atlantic, and we do have a Mid-Atlantic and a New England representative right now, so we've got two of the three areas, which is just the way it's going to work out. I think administratively with the Commissioners in the south. But we still feel like being from the south we don't feel like we are underrepresented, and that's speaking for myself, but I think it's a sentiment across the Board.

EXECUTIVE DIRECTOR BEAL: The other thing, Tom, is the Executive Committee did talk about elections this morning and the nominating process a little bit, as well as sort of who's eligible to become Vice-Chair and Chair of the Commission? Is it proxies, permanent proxies, ongoing proxies, just actual Commissioners, who is it? The Executive Committee is going to open up that process and look at the election. Stay tuned for that.

MR. FOTE: Yes, I mean the last time we had a Governors Appointee as a Vice-Chair was Bonnie Brown, and that's got to be 15 or 20 years ago. There are 45 Commissioners also.

#### RECESS

EXECUTIVE DIRECTOR BEAL: That's a fair point. Is there anything else before the Business Session? All right seeing none the Business Session will be in recess until later tomorrow morning. I forget the time, eleven o'clock or so. We stand in recess right now.

(Whereupon the meeting recessed at 2:32 o'clock p.m. on October 18, 2017)

**ATLANTIC STATES MARINE FISHERIES  
COMMISSION  
BUSINESS SESSION**

**Marriott Hotel Norfolk, Virginia**

**OCTOBER 19, 2017  
THURSDAY SESSION**

The Business Session of the Atlantic States Marine Fisheries Commission reconvened in the Hampton Roads Ballroom V of the Marriott Waterside Hotel, Norfolk, Virginia, October 19, 2017, and was called to order at 11:56 o'clock a.m. by Chairman James J. Gilmore.

**CALL TO ORDER**

CHAIRMAN JAMES J. GILMORE: Okay we're going to move right along, I'm going to invoke my George Lapointe and see if we can do this very quickly.

**CONSIDER FINAL APPROVAL OF NORTHERN SHRIMP AND TAUTOG AMENDMENTS**

CHAIRMAN GILMORE: **We've got a couple of final approvals on amendments that were discussed and approved this week by the boards.** The first one is for northern shrimp, and the next one is for tautog. Do we have a motion for northern shrimp? Doug.

MR. DOUGLAS E. GROUT: **As soon as the motions are up on the board, I will make it for the Shrimp Section. The first motion is to move the Commission approve Amendment 3 to the Northern Shrimp Interstate Fishery Management Plan.**

CHAIRMAN GILMORE: Okay, we have a motion by Doug Grout, is there a second to that motion? Eric Reid seconds the motion. Is there any discussion on the motion? **Is there any objection to the motion? Seeing none; the motion is approved by unanimous consent.**

MR. GROUT: Then I have a second motion that they will bring up, and this will need a second. **My motion is to move the Commission send a letter to NOAA Fisheries and the New England Fisheries Management Council regarding the requirement for size-sorting grates in Amendment 3 to the Northern Shrimp Fishery Management Plan, and if I get a second I'll provide some justification.**

CHAIRMAN GILMORE: Do we have a second for that motion? John Clark. Okay Doug, the floor is yours.

MR. GROUT: The justification is that in our Amendment 3 we have additional size selection grates that are not currently in the groundfish plan. The northern shrimp fishery is allowed to occur under a groundfish plan exemption, which allows for a Nordmore Grate that helps get rid of bycatch of groundfish, get rid of it eliminate bycatch of groundfish species.

We're proposing new designs that could be used that would not only get rid of the bycatch of groundfish species, but also reduce the amount of juvenile shrimp that are caught in the shrimp net. That's going to take a change by NOAA Fisheries and the Council to their groundfish management plan to allow those.

CHAIRMAN GILMORE: **Any questions on that or discussion on that motion? Seeing none; is there any objection to this motion? Seeing none; we will adopt that by unanimous consent.** Okay now we need a motion on the tautog amendment. Adam Nowalsky.

MR. ADAM NOWALSKY: **Prepared to make that motion on behalf of the Board, so we should not need a second. On behalf of the Tautog Management Board, move the Commission approve Amendment 1 to the Tautog Interstate Fishery Management Plan.**

CHAIRMAN GILMORE: Is there any discussion on this motion? **Is there any objection to this**

**motion? Seeing none; we will adopt that by unanimous consent.**

**REPORT FROM THE RESOLUTIONS COMMITTEE**

CHAIRMAN GILMORE: Okay moving right along, the next action item we have is from the Resolutions Committee, and we're going to have a report from Jay McNamee. Jay.

MR. JASON McNAMEE: Good afternoon everyone. We've developed a resolution for you to consider. But first I would like to thank the Resolution Committee. This resolution was a team effort between me, Pat Geer, Representative Sarah Peake, Tina helped us edit, and gave us some good comments.

We also had a special guest contribution from Dennis Abbott, who gave us some great language to include. We tried to capture some of the spirit and funny anecdotes from this past week, and we also wanted to make sure someone who is not able to be with us this week knows that we were thinking of her. With that I would like to offer a resolution for your consideration.

CHAIRMAN GILMORE: Please proceed.

MR. McNAMEE: Whereas the Atlantic States Marine Fisheries Commission celebrated its 76th Annual Meeting in beautiful downtown Norfolk, Virginia, which provided a wonderful setting for the Commissioners, Law Enforcement Officers, Commission staff, and Habitat Scientists to deliberate and discuss fisheries issues of mutual concern.

And whereas the opening plenary session was honored to have guest speaker, Dr. Roger Mann of the Virginia Institute of Marine Science, present a talk titled Fishery Management and Moving Baselines; a stark, eye-opening look at climate change and its role in fisheries management, which reminded Commissioners and guests of the dynamic, exciting, and

challenging field that we have all chosen as our life's work, and that this field will be a work in progress for years to come, leading some of our colleagues to immediately leave the session to either phone their retirement boards or therapists.

And whereas Commissioners, staff and guests were warmly welcomed at the Virginia Aquarium and Marine Science Center reception; and treated to numerous local seafood dishes from the Chesapeake Bay, while being serenaded by whale songs and the relaxing visions of the live exhibits.

And whereas Jeff Beal received the Melissa Laser Award for his work and dedication to Florida's habitat restoration efforts, and whereas Commissioner and host, John Bull, took several opportunities at the podium to make comparisons of the Commonwealth to other states, bless his heart.

And whereas the Annual Dinner was held at the Half Moon Center, offering spectacular views of the Elizabeth River at sunset, while Commissioners and guests drank, ate and were merry to the wonderful sounds of a steel drum band, and whereas the 27th Annual David Hart Award recognized Paul Diodati, retired Director of the Massachusetts Division of Marine Fisheries, for his long commitment to the Commission and his many accomplishments in the field of fisheries management both in Massachusetts and all along the Atlantic Coast.

And whereas 25 brave souls battled the ocean elements 15 miles off Virginia Beach on Sunday, to participate in the 26th Annual Laura Leach Fishing Tournament, guided by the able staff at VMRC and our host and sponsor Rudy Tours, Commissioners, staff and guest dropped their lines but held their lunches to retrieve a myriad of species such as black sea bass, triggerfish, summer flounder, at least one monster toadfish, and even a conger eel.

And whereas, speaking of our friend and colleague Laura Leach, who for the first time in 36 years was unable to attend the meeting, and whose absence was both duly noted and deeply felt by all participants. And whereas, her efforts along with her team at ASMFC, who picked up the ball and ran with it when their friend and colleague needed it most, contributed to another wonderful and successful meeting week.

Now, therefore be it resolved that the Atlantic States Marine Fisheries Commission expresses its deep appreciation to the Virginia Commissioners, John Bull, Catherine Davenport, Senator Richard Stewart, their proxies, Kyle Schick, Joe Cimino, and Rob O'Reilly to the VMRC and Commission staff for their outstanding support and assistance in making the 76th Annual Meeting a great success, in that we the Commissioners wish Laura a continued successful recovery and we look forward to greeting her with a big hug when we meet again in Arlington, Virginia during the 2018 winter meeting.

CHAIRMAN GILMORE: Thank you, Jay, very well said, and on behalf without objection I'll take that and a round of applause for our host. I've already asked John if he will help us plan next year when New York hosts, since he is such a great guy and very entertaining; so you did a wonderful job. I believe that's our last, unless there is other business before. Malcolm Rhodes.

DR. RHODES: I just had one quick question. We're having a South Atlantic Board after lunch today, or after this meeting. We'll probably be bringing forward an amendment for cobia. Since the Business Session will not meet, is there any way to address that prior to the winter meeting?

CHAIRMAN GILMORE: Toni has an answer for you, Malcolm.

MS. KERNS: Well luck would have it, the Atlantic Menhaden Board will be meeting in November, and it's a coastwide Board with this full group of folks, so we can convene into a Business Session after that amendment goes through, fingers crossed, and both the menhaden amendment as well as the cobia amendment can be considered there.

DR. RHODES: Thank you.

#### **ADJOURNMENT**

CHAIRMAN GILMORE: Any other thing to come up before the Business Session? Seeing none; a motion to adjourn, by everyone. Thank you.

(Whereupon the meeting adjourned at 12:07 o'clock p.m. on October 19, 2017)

# Atlantic States Marine Fisheries Commission

## Atlantic Menhaden Management Board

*February 8, 2018  
1:45 – 2:45 p.m.  
Arlington, Virginia*

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

- |                                                                                                                                                           |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1. Welcome/Call to Order ( <i>B. Ballou</i> )                                                                                                             | 1:45 p.m. |
| 2. Board Consent                                                                                                                                          | 1:45 p.m. |
| • Approval of Agenda                                                                                                                                      |           |
| • Approval of Proceedings from November 2017                                                                                                              |           |
| 3. Public Comment                                                                                                                                         | 1:50 p.m. |
| 4. Consider ISFMP Policy Board Recommendation Regarding Commonwealth of Virginia Amendment 3 Appeal, If Necessary ( <i>T. Kerns</i> ) <b>Final Action</b> | 2:00 p.m. |
| 5. Other Business/Adjourn                                                                                                                                 | 2:45 p.m. |

The meeting will be held at the Westin Crystal City 1800 Jefferson Davis Highway, Arlington, Virginia; 703.486.1111

# MEETING OVERVIEW

## Atlantic Menhaden Management Board Meeting

February 8, 2018

1:45 – 2:45 p.m.

Arlington, Virginia

Chair: Robert Ballou (RI) Assumed Chairmanship: 05/16	Technical Committee Chair: Joey Ballenger (RI)	Law Enforcement Committee Representative: Capt. Kersey (MD)
Vice Chair: Nichola Meserve (MA)	Advisory Panel Chair: Jeff Kaelin (NJ)	Previous Board Meeting: November 13 and 14, 2017
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS (18 votes)		

### 2. Board Consent

- Approval of Agenda
- Approval of Proceedings from November 2017

**3. Public Comment** – At the beginning of the meeting public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

### 4. Consider ISFMP Policy Board Recommendation Regarding Commonwealth of Virginia Amendment 3 Appeal, If Necessary (2:00-2:45 p.m.) Final Action

#### Background

- Amendment 3 to the Atlantic Menhaden FMP was approved in November 2017 (**Policy Board briefing materials**). The Amendment established changes to the management of the menhaden fishery including reference points, allocation, quota transfers and the Chesapeake Bay Fishery Cap (Bay Cap).
- Virginia is appealing the approval of the amendment (**Policy Board briefing materials**).
- Following the Appeal Process (**Policy Board briefing materials**), Commission leadership reviewed the appeal and determined the appeal should be considered by the ISFMP Policy Board under criterion 3, incorrect application of technical data for the Bay Cap (**Policy Board briefing materials**).
- The Policy Board will consider the appeal at the February 8, 2018 meeting. The Policy Board could make a recommendation to the Menhaden Board for consideration.

#### Board actions for consideration at this meeting

- Consider ISFMP Policy Board Recommendation Regarding Commonwealth of Virginia Amendment 3 Appeal, if necessary

### 5. Other Business/Adjourn

## Atlantic Menhaden

### Activity level: High

**Committee Overlap Score:** High (SAS, BERP overlaps with American eel, striped bass, northern shrimp, Atlantic herring, horseshoe crab, weakfish)

#### Committee Task List

- TC, SAS, BERP – January-March – 2019 Benchmark stock assessment planning and data collection
- TC – April 1<sup>st</sup>: Annual compliance reports due
- TC, SAS, BERP – April – Data workshop
- TC, SAS, BERP – September – Data/Modelling workshop

**TC Members:** Joey Ballenger (SC, TC Chair), Jason McNamee (RI), Lindsey Aubart (GA), Jeff Brust (NJ), Matt Cieri (ME), Ellen Cosby (PRFC), Micah Dean (MA), Corrin Flora (NC), Kurt Gottschall (CT), Jesse Hornstein (NY), Rob Latour (VIMS), Behzad Mahmoudi (FL), Ray Mroch (NMFS), Josh Newhard (USFWS), Derek Orner (NMFS), Amy Schueller (NMFS), Alexei Sharov (MD), Jeff Tinsman (DE), Kristen Anstead (ASMFC), Max Appelman (ASMFC)

**SAS Members:** Amy Schueller (NMFS, SAS Chair), Matt Cieri (ME), Micah Dean (MA), Robert Latour (VIMS), Behzad Mahmoudi (FL), Ray Mroch (NMFS), Jason McNamee (RI), Alexei Sharov (MD), Kristen Anstead (ASMFC), Max Appelman (ASMFC)

**BERP Members:** Matt Cieri (ME, BERP Chair), Jeff Brust (NJ), Michael Celestino (NJ), David Chagaris (FL), Micah Dean (MA), Rob Latour (VIMS), Jason McNamee (RI), Amy Schueller (NMFS), Alexei Sharov (MD), Howard Townsend (NFMS), Jim Uphoff (MD), Kristen Anstead (ASMFC), Katie Drew (ASMFC), Max Appelman (ASMFC)



**DRAFT PROCEEDINGS OF THE**  
**ATLANTIC STATES MARINE FISHERIES COMMISSION**  
**ATLANTIC MENHADEN MANAGEMENT BOARD**

BWI Airport Marriot  
Linthicum Heights, Maryland  
**November 13, 2017**  
**November 14, 2017**

These minutes are draft and subject to approval by the Atlantic Menhaden Management Board  
The Board will review the minutes during its next meeting

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Adjournment..... 118

**PLEASE NOTE: PROCEEDINGS OF THE FIRST FEW MINUTES OF THE BOARD RECONVENING ON THE AFTERNOON OF NOVEMBER 14 ARE UNAVAILABLE.**

## INDEX OF MOTIONS

1. **Approval of Agenda** by Consent (Page 1).
2. **Approval of Proceedings of August 2017** by Consent (Page 1).
3. **Move to adopt reference point Alternative E: BERP Workgroup continues to develop menhaden-specific ERPs with interim use of 75 percent target and 40 percent threshold as described in Draft Amendment 3** (Page 24). Motion by David Borden, second by Nichola Meserve. Motion substituted.
4. **Move to substitute Option B: The BERP Working Group continues to develop menhaden-specific ERPs with the interim use of single-species reference points as described in Draft Amendment 3** (Page 25). Motion by Pat Keliher, second by Russ Allen. Motion carried and becomes the main motion (Page 37).

**Main Motion: Option B: The BERP Working Group continues to develop menhaden-specific ERPs with the interim use of single-species reference points as described in Draft Amendment 3.** Motion to amend (Page 37).

5. **Move to amend to add set the TAC at 200,000 metric tons for the next two years (2018-2019)** (Page 37). Motion by Robert Boyles; second by John McMurray. Motion fails (Page 39).

**Main Motion: Option B: The BERP Working Group continues to develop menhaden-specific ERPs with the interim use of single-species reference points as described in Draft Amendment 3.** Motion carried (Page 39).

6. **Move that if a fixed minimum option is selected the following conditions would govern the activity: at the start of each fishing year and no later than January 31, states must declare if they want to participate in the fixed minimum program. States have the option to opt-out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds of bycatch purposes and decline the remainder of their quota**

States also have the right to opt-in to the program and receive their full allocation. In declaring its intent to receive its fixed minimum quota, a state can also choose to receive all, or part, of this amount. If a jurisdiction declines its full allocation it must specifically identify the amount requested. States which opt-in must demonstrate that the state has the intent and the ability to commercially harvest some, or all, of its menhaden quota for the directed or bycatch fishery.

This can be demonstrated through the issuance of permits for applicable gear types or species, historic landings, or the abundance of menhaden in state and/or federal waters. Any quota that is not received by a state is re-distributed to the other jurisdictions based on historical landings from the time-period selected by the Board in this Amendment (Page 51. Motion tabled until Issue 2 is addressed on Page 55. Motion by Pat Keliher; second by Ritchie White.

7. **Move to table under Issue 2: Allocation Methods and Timeframes has been decided** (Page 55). Motion by Adam Nowalsky; second by Rob O'Reilly. Motion passes (Page 55).

8. **Move to set a total allowable catch; not to exceed 216,000 metric tons until such time that ecological reference points are utilized for Atlantic menhaden management** (Page 56). Motion by Jim Estes; second by Spud Woodward. Motion to substitute (Page 57).
9. **Move to substitute to set a total allowable catch of 240,000 metric tons for 2018 and 2019** (Page 57). Motion by Adam Nowalsky; second by David Bush. Motion fails (Page 60).

**Main motion: to set a total allowable catch not to exceed 216,000 metric tons until such a time that ecological reference points are utilized for menhaden management.** Motion to substitute (Page 61).

10. **Move to substitute to set a total allowable catch not to exceed 220,000 metric tons for 2018 and 2018 or until menhaden-specific ecological reference points are available for management use, whichever is first** (Page 61). Motion by David Bush; second by Rachel Dean. Motion fails (Page 67).

**Main motion: to set a total allowable catch not to exceed 216,000 metric tons until such a time that ecological reference points are utilized for menhaden management.** Motion substituted.

11. **Move to substitute to set a total allowable catch not to exceed and be set at 216,000 metric tons for 2018 and 2019 or unless menhaden-specific ecological reference points are available for management use** (Page 67). Motion by Rachel Dean; second by Steve Train. Motion carried (Page 73).
12. **Move to limit debate** (Page 72). Motion by Dennis Abbott; second by Lauren Lustig. Motion carried (Page 72).

**Main Motion as Substituted: Motion to set a total allowable catch to not exceed and be set at 216,000 metric tons until such a time that ecological reference points are utilized for menhaden management.** Motion carried (Page 74).

13. **Move to choose the following options in Draft Amendment 3: Section 4.3.2 Allocation Method Option C with a jurisdictional allocation with a Minimum Base Allocation of 0.75 percent fixed minimum for the Quota Timeframe of 2012 to 2016. Section 4.3.3 Quota Transfer Option A: Quota Transfer would be permitted. Section 4.3.4: Quota Rollover Option A: Unused Quota May Not Be Rolled Over** (Page 75). Motion by Pat Keliher; second by Ritchie White. Motion to amend (Page 75).
14. **Motion to Amend: Section 4.3.3 Allocation method Option C; jurisdictional allocation with a minimum base allocation of a 1.0 fixed minimum** (Page 75). Motion by Emerson Hasbrouck; second by Nichola Meserve. Motion fails (Page 77).
15. **Motion to Amend: To substitute the first bullet with "Option F under Section 4.3.2; Allocation based on TAC level"** (Page 78). Motion by Rob O'Reilly; second by David Bush; Motion fails (Page 80).

**Main Motion: to choose the following options in Draft Amendment 3: Section 4.3.2 Allocation Method Option C with a jurisdictional allocation with a Minimum Base Allocation of 0.75**

**percent fixed minimum for the Quota Timeframe of 2012 to 2016. Section 4.3.3 Quota Transfer Option A: Quota Transfer would be permitted. Section 4.3.4: Quota Rollover Option A: Unused Quota May Not Be Rolled Over. Motion carried (Page 80).**

16. **Move to bring the tabled motion back for consideration by the Board (Page 80). Motion by Adam Nowalsky; second by Emerson Hasbrouck. Motion carried (Page 80).**

**Tabled Motion: Move that if a fixed minimum option is selected the following conditions would govern the activity: at the start of each fishing year and no later than January 31, states must declare if they want to participate in the fixed minimum program. States have the option to opt-out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds of bycatch purposes and decline the remainder of their quota.**

**States also have the right to opt-in to the program and receive their full allocation. In declaring its intent to receive its fixed minimum quota, a state can also choose to receive all, or part, of this amount. If a jurisdiction declines its full allocation it must specifically identify the amount requested. States which opt-in must demonstrate that the state has the intent and the ability to commercially harvest some, or all, of its menhaden quota for the directed or bycatch fishery.**

**This can be demonstrated through the issuance of permits for applicable gear types or species, historic landings, or the abundance of menhaden in state and/or federal waters. Any quota that is not received by a state is re-distributed to the other jurisdictions based on historical landings from the time-period selected by the Board in this Amendment. Motion to Substitute (Page 85).**

17. **Move to substitute that “at the start of each fishing year and no later than January 31st, states may declare if they want to opt-out of the fixed minimum program. States may declare to opt-out of the program and decline all or part of their fixed minimum allocation. If a jurisdiction declines part of their allocation it must specifically identify the amount they do not wish to receive. Any quota that is not received by a state is redistributed to the other jurisdictions based on historic landings from the time-period selected by the Board in this Amendment (Page 85). Motion fails (Page 93).**

**Main Motion: Motion that if a fixed minimum option is selected the following conditions would govern the activity: at the start of each fishing year and no later than January 31, states must declare if they want to participate in the fixed minimum program. States have the option to opt-out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds of bycatch purposes and decline the remainder of their quota.**

**States also have the right to opt-in to the program and receive their full allocation. In declaring its intent to receive its fixed minimum quota, a state can also choose to receive all, or part, of this amount. If a jurisdiction declines its full allocation it must specifically identify the amount requested. States which opt-in must demonstrate that the state has the intent and the ability to commercially harvest some, or all, of its menhaden quota for the directed or bycatch fishery.**

**This can be demonstrated through the issuance of permits for applicable gear types or species, historic landings, or the abundance of menhaden in state and/or federal waters. Any quota that is not received by a state is re-distributed to the other jurisdictions based on historical landings from the time-period selected by the Board in this Amendment.**

18. **Move to reconsider the allocation method** (Page 93) Motion by Robert Boyles; second by Roy Miller. Motion carried (Page 94). **NOTE: *No verbatim transcripts included for this motion***
19. **Move to reconsider the allocation method: To select Section 4.3.2 Allocation Method: Option C, Jurisdictional Allocation with a Fixed Minimum with a 0.5 percent fixed minimum; Allocation Timeframe: 2009-2011. Section 4.3.3 Quota Transfers Option A: Quota Transfers Permitted**  
**Section 4.3.4 Quota Rollover Option A: Unused Quota May Not Be Rolled Over. Section 4.3.5 Incidental Catch and Small Scale Fisheries: Option B modified to include purse seines smaller than 150 fathom long by 8 fathom deep would be considered small scale gear. Section 4.3.6 Episodic Events Option A: 1 percent Set Aside** (Page 95). Motion by Robert Boyles; second by David Bush. Motion carried (Page 104).
20. **Move to select under Section 4.3.7: Chesapeake Bay Reduction Fishery Cap, Option A. Cap set at 87,216 metric tons, and Sub-option A; limited rollover of unused cap permitted up to 10,976 metric tons** (Page 105). Motion by Rob O'Reilly; second by Adam Nowalsky. Motion substituted.
21. **Move to substitute to select Option B: cap set at 51,000 metric tons and Sub-option B; no rollover of unused cap permitted** (Page 105). Motion by Allison Colden; second by John McMurray. Motion carried (Page 110).  
**Main motion as substituted: to select Option B: cap set at 51,000 metric tons and Sub-option B; no rollover of unused cap permitted.**
22. **Move that states must declare any relinquished quota by December 1st of the previous year. States have the ability to declare how much of their quota to relinquish. Any quota that is relinquished by a state is redistributed to the other jurisdictions based on historic landings from the time period selected by the Board in this Amendment** (Page 110). Motion by Pat Keliher; second by David Borden. Motion carried (Page 111).
23. **Move that states implement the provisions of Amendment 3 by January 1, 2018** (Page 113). Motion by Tom Fote; second by Loren Lustig. Motion amended.
24. **Move to Amend: That states submit implementation plans for Amendment 3 by January 1, 2018, and implement by April 15, 2018** (Page 114). Motion by Robert Boyles; second by Jim Gilmore. Motion carried (Page 116).  
**Main Motion as amended: That states submit implantation plans for Amendment 3 by January 1, 2018, and implement by April 15, 2018.** Motion carried (Page 117).
25. **Motion to recommend to the Commission: the approval of Amendment 3 to the Atlantic Menhaden Interstate Fishery Management Plan as amended today** (Page 116). Motion by Robert Boyles; second by Jim Estes. Motion carried (Page 117).
26. **Move to elect Nichola Meserve as Vice-Chair of the Atlantic Menhaden Board** (Page 118). Motion by Robert Boyles on behalf of the Atlantic Menhaden Board. Motion carried (Page 118).
27. **Motion to adjourn by Consent** (Page 118).

**ATTENDANCE**

**Board Members**

Pat Keliher, ME (AA)	Andy Shiels, PA, proxy for J. Arway (AA)
Steve Train, ME (GA)	John Clark, DE, proxy for D. Saveikis (AA)
Cheri Patterson, NH, proxy for D. Grout (AA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
G. Ritchie White, NH (GA)	Roy Miller, DE (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Rachel Dean, MD (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)	Dave Blazer, MD (AA)
Raymond Kane, MA (GA)	Allison Colden, MD, proxy for Del. Stein (LA)
Nichola Meserve, MA, proxy for D. Pierce (AA)	Rob O'Reilly, VA, proxy for J. Bull (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Cathy Davenport, VA (GA)
Robert Ballou, RI, proxy for J. Coit (AA)	Michelle Duval, NC, proxy for B. Davis (AA)
David Borden, RI (GA)	David Bush, NC, proxy for Rep. Steinburg (LA)
Colleen Giannini, CT, proxy for M. Alexander (AA)	W. Douglas Brady, NC (GA)
Sen. Craig Miner, CT (LA)	Malcolm Rhodes, SC (GA)
Jim Gilmore, NY (AA)	Robert Boyles, Jr., SC (AA)
Emerson Hasbrouck, NY (GA)	Spud Woodward, GA (AA)
John McMurray, NY, proxy for Sen. Boyle (LA)	Jim Estes, FL, proxy for J. McCawley (AA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)	Martin Gary, PRFC
Tom Fote, NJ (GA)	Derek Orner, NMFS
Russ Allen, NJ, proxy for L. Herrighty (AA)	Mike Millard, USFWS
Loren Lustig, PA (GA)	

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

Jason McNamee, Technical Committee Chair	Jeff Kaelin, Advisory Panel Chair
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**Staff**

Bob Beal	Shanna Madsen
Toni Kerns	Megan Ware
Katie Drew	Max Appelman

**Guests**

Fred Akers, Newtonville, NJ	Benson Chiles, Chiles Consulting
Julie Akers, Newtonville, NJ	Robt Crockett, Richmond, VA
Lew Armistead, Hollywood, MD	Colin Crozier, CBF
Dana Austin, CBF	Jeff Deem, VMRC
Amiele Barakey, CBF	Monty Deihl, Omega Protein
Blair Blanchette, CBF	Katherine Denel, PEW
John Bello, VA SSA	Mark Driscoll, Richmond, VA
F.L. Benson, Lanexa, VA	Butch Eason, Chesapeake, VA
Sarah Boynton, CBF	Paul Erdman, Menhaden Defenders
Kathryn Bush, CBF	A.J. Erskine, Lottsburg, VA
Kim Cable, CBF	Lynn Fegley, MD DNR

**Guests (continued)**

Christine Fletcher, PEW  
Manley Fuller, FL Wildlife Fed  
Shaun Gehan, Omega Protein  
Rebecca Gagnon, Norfolk, VA  
Joseph Gordon, PEW  
Ken Hastings, Mason Springs  
Marin Hawk, MSC  
D. Heinemann, Marine Mammal  
Peter Himchak, Omega Protein  
Ken Hinman, Wild Oceans  
Rich Hittenger, RI Saltwater Anglers  
Richard Holewinski, CCA MD  
Jerry Hughes, Chesapeake, VA  
Jason Hoffman, *Undercurrent News*  
Deane Horowitz, CBEC  
John Jaackst, Severn, MD  
Chris Johnson, CBF  
Robert Jones, VSSA  
Ron Ketter, Easton, MD  
Robert Kersey, MD NRP  
Jimmy Kellum, Kellum Maritime  
Howard King, Queenstown, MD  
Aaron Kornbluth, PEW  
Ben Landry, Omega Protein  
George Lapointe, Omega Protein, ME  
Ken Lewis, CCA ME  
Ed Liccione, CCA MD  
Bill Lucey, LI Soundkeeper  
Rudy Lukavovic, CBEC

Janet Mackey, Easton, MD  
William Martin, CCA MD  
John Matson, Hampton, VA  
Drew Minkiewicz, KDW  
David Mussina, Mystic River W  
Thomas Miller, FORVA  
Chris Moore, CBF  
Henry Neville, Ashland, VA  
Christiana Perry CBEC  
Ken Pinkard, UFCW Local 400  
Jamie Pollack, PEW NY  
Drew Robinson, CBF  
Elizabeth Ronson, CBF  
Robert Ruck, Sr., CCA MD  
Jim Seagraves, Portsmouth, VA  
David Sikorski, CCA  
Jonathan Stone, Save the Bay, RI  
Thomas Strachle, Westminster, MD  
Stan Sutliff, Hampton Roads, VA  
Cameron Taggert, PEW  
Jeff Taylor, Mayforth Group  
Jack Travelstead, CCA  
Donna Waddell, UFCW Local 400  
Marvin Wells, Dundale, MD  
Mike Wills, VA Beach, VA  
Michael Wissel, CCA MD  
Liz Worsham, Heathville, VA  
Tom Zolper, CBF



The Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission convened in BWI Airport Marriot, Linthicum Heights, Maryland, Monday, November 13, 2017, and was called to order at 1:00 o'clock p.m. by Chairman Robert Ballou.

### **CALL TO ORDER**

MR. ROBERT BALLOU: I would like to call this meeting of the Menhaden Management Board to order. My name is Bob Ballou. I have the honor of serving as Board Chair. I would like to begin by extending a warm welcome to all Board members; as well as the many members of the public here in attendance, and listening in via the webinar. We deeply appreciate your time and interest.

Next I would like to introduce the members of staff and committee chairs who are here at this end of the table. To my immediate right is Megan Ware; the Commission's menhaden fishery management plan Coordinator. To Megan's right will be Jason McNamee; the Menhaden Board's Technical Committee Chair.

To Jason's right, or next going to my right is Dr. Katie Drew; the Commission's senior stock assessment scientist. Next to Katie is Shanna Madsen; the Commission's Fisheries Science Coordinator. To Shanna's right is Max Appelman; FMP Coordinator with the Commission, who will be handling the screen as motions are made and considered during the course of this meeting.

At the corner of the table is Toni Kerns; the Commission's Fisheries Management Program Director, and to Toni's right is Bob Beal, the Commission's Executive Director. To my immediate left is Jeff Kaelin; who serves as Chair of the Menhaden Board's Advisory Panel, and to Jeff's left is Major Rob Kersey, who serves as liaison to the Management Board from the Commission's Law Enforcement Committee.

Gathered around the table are the 48 members of the Commission's Atlantic Menhaden Management Board; representing 16 east coast states and our two federal partners. I'm sorry, 16 east coast states in jurisdictions from Maine through Florida; as well as our two federal partners, NOAA Fisheries and the U.S. Fish and Wildlife Service.

All Board members will be afforded the opportunity to participate fully, with regard to all matters that will be before the Board, with the exception of meeting-specific proxies; and I believe we only have one, who will not be able to participate in final voting on final action items. In my capacity as Board Chair, I will be exercising my prerogative to caucus and vote with the Rhode Island delegation; primarily for the purpose of avoiding a null vote from Rhode Island on any given issue, slim as those chances may be. Before we jump into our agenda, for which we have a total of 11 hours allocated through the rest of this afternoon and tomorrow, please indulge me for about two minutes for some brief opening remarks. Without knowing, or even having a reasonable guess as to how this meeting will unfold, I do know one thing and I know it with absolute certainty; and that is that we have reached a major milestone with regard to Atlantic menhaden.

That milestone is characterized by our universal recognition of the soaring importance of this resource; the ecosystem services it provides, and the enormous numbers of people who value and depend on the resource as a source of income, and as a lynchpin of the marine environment along the entire east coast.

On behalf of the entire Board, I want to express our deep appreciation for the many thousands of people, indeed hundreds of thousands of people from all walks of life, who have contributed to the development, analysis, and consideration of the issues that are before us today and tomorrow via Amendment 3.

The contributions from the scientific community, fishing community, environmental community, and all others, including those wearing no particular hat other than one that might read "I care" are duly noted, highly influential, and deeply appreciated. In particular I want to give a shout out to staff, members of the Plan Development Team, and members of the several committees and workgroups who have all lent enormous support to the process; ushering us to where we are today.

This meeting, whatever the outcome, indeed constitutes a milestone for all the reasons just mentioned. Milestones are neither beginnings nor ends; they are points along a journey. With that let's now move forward with our journey; and to all my esteemed colleagues on the Board, may we be guided over the next eleven hours or so by the spirit of doing what's right. Amen.

#### **APPROVAL OF AGENDA**

CHAIRMAN BALLOU: Our first item on the agenda is the agenda itself. Before I seek input from the Board, I would like to offer one clarifying suggestion and one minor tweak. First, with regard to Agenda Item 8, which reads Set 2018 Atlantic Menhaden Specifications, I suggest clarifying it to read, Set 2018 (Annual or Multi-Year) Atlantic Menhaden Specifications.

That exact wording is already set forth in the meeting overview; and speaks to the fact that the Board will be deciding upon a total allowable catch, or TAC, for the fishery, and deciding whether to set it for one year or more than one year. As such, I suggest clarifying the wording for Item 8 as indicated; to better reflect the nature of that agenda item.

Are there any objections to making that clarification? Seeing none, we'll make that clarification. Second under Item 4, I would just like to suggest that we reverse the order of two of the four presentations. After Megan

provides the management option review and the summary of public comments, I would like to move next to the Law Enforcement Committee report, and then immediately follow with the Advisory Panel Committee report.

I suggest that only because I think the flow might work a little better. Are there any objections to that really minor tweak? Seeing none; we'll make that minor tweak. Does anyone else on the Board, or does anyone on the Board have any other recommended modifications to the agenda; yes, Rob O'Reilly?

MR. ROB O'REILLY: Before I make a recommendation it may be solved by a question, which is other than Item 8, there is no specific mention as to the order of business for the biological reference points and the allocation as to where they fit within this agenda. If there is already information on that that would be fine, otherwise I will make a recommendation.

CHAIRMAN BALLOU: My intent with regard to Item 4 is to take up the Amendment 3 issues; beginning with reference points, and then proceeding with allocation and the other issues in the amendment. As currently proposed, we would then conclude Amendment 3, and move on to specifications for the fishery; as the item after that. Right now that is the proposed order of business. Do you have a suggested revision to that? Rob O'Reilly.

MR. O'REILLY: I would just wonder why the quota setting doesn't precede the allocation; because certainly one is going to bear on the other, and I just wondered if there was given any thought to that by staff for this meeting.

CHAIRMAN BALLOU: We'll give it a lot of thought at this exact moment; if you want to recommend making that change.

MR. O'REILLY: I would move that change to establish the quota setting to precede the allocation.

CHAIRMAN BALLOU: The request as I understand it is to amend the agenda by inserting Item 8; which is final action on spec setting into Item 4, which is final action on Amendment 3, such that as we are moving through the provisions of the Amendment, which we plan to take up in the order presented in the draft. When we get to allocation methods, we will pause consideration of the amendment issues to take up final action on spec setting; then continue with the rest of the provisions of the amendment. Is that your request?

MR. O'REILLY: Yes, simply to have the specification prior to the allocation.

CHAIRMAN BALLOU: I realize I gave it more words, but I just wanted to make it clear as to what I understand the intent to be. Is there any objection to that request by any members of the Board? Eric Reid.

MR. ERIC REID: Does that preclude any motions that might be bundled in one shot from being discussed at the same time?

CHAIRMAN BALLOU: My interpretation is that it would not; provided that we first move through reference points, after that there can be bundling. Any further discussion is there any further yet concerns? Dennis Abbot.

MR. DENNIS ABBOTT: Going along with Eric's question. Could we not have a more inclusive motion, but yet divide the question at that time if necessary?

CHAIRMAN BALLOU: If it's the will of the Board we'll do that. It will be my recommendation as Chair that we first move through reference points and then take up the other issues in either a bundled form or issue by issue; whichever the Board would prefer. Seeing no other hands, I will take that to indicate that there are no objections to revising the agenda as recommended by Rob O'Reilly. Are there any other recommended changes to the

agenda? Seeing none, oh I do have one; I'm sorry, yes Dr. Rhodes.

DR. MALCOLM RHODES: This isn't to change the agenda, but just a quick question. We'll need a Policy Board meeting. Would we have that before the close of this? Would we adjourn, then have Policy Board, not only to accept these actions but also we had some actions at the South Atlantic Board that we need to get accepted by the entire Commission. I just wanted to know where in the order that comes.

CHAIRMAN BALLOU: Thank you for the question. I'll refer to Bob Beal to answer it.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Yes, Malcolm, you're correct. At the end of the Menhaden Board meeting, once all the decisions are made for Amendment 3, as well as the specifications for next year and any subsequent years. The Menhaden Board will adjourn; we'll go into a Business Session. The Business Session will tackle Amendment 3, the final approval for menhaden, as well as the cobia FMP that was approved by the South Atlantic Board; so at the very end, hopefully tomorrow afternoon, early afternoon.

CHAIRMAN BALLOU: Anything further on the agenda? Seeing no hands, the agenda as revised stands approved.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN BALLOU: We are now onto the next item which is approval of the proceedings from the Board's last meeting, held on August 2, 2017. Are there any recommended changes to the minutes?

Seeing none; is there any objection to approving the minutes as proposed? Seeing none; the minutes stand approved by consent. I don't see our stenographer, but I assume this meeting is being recorded; and I just received a nod in the affirmative on that.

**PUBLIC COMMENT**

CHAIRMAN BALLOU: Next on the agenda is Public Comment, Item 3.

This is an opportunity for anyone from the public who would like to comment on any issue that is not on the agenda for this meeting, to do so. Given the nature of the agenda, this is a very narrow opportunity. Through the public comment process the Board has already sought and received extensive and valuable public comments on all components of the draft amendment, and all 158,106 comments are before the Board as part of our meeting materials.

That part has been done and done well. When we get to the issue of setting specifications for the fishery, there will be an opportunity for public comment on that issue; but for now the floor is only open to comments pertaining to non-agenda items, that is items not related to menhaden management. We have only ten minutes allotted for this portion of the agenda, which means we have a hard stop at 1:23. We have just one person signed up, and I am going to go to that person first, and that is Mr. Robert T. Brown. Welcome, Mr. Brown.

MR. ROBERT T. BROWN: My name is Robert T. Brown; President of the Maryland Watermen's Association. I want to talk to you today about eels. The Eel Management Plan, if the east coast quota is exceeded by 10 percent in one year, or less than 10 percent in two consecutive years, it sets off a trigger that all states must have individual quotas. The quota was exceeded by approximately 20,000 pounds or less than 2 percent in 2017. Maryland has already, with its fishermen, agreed to close Saturday's and Sunday's harvest during the months of September, October, and November; and will close the entire month of December. Hopefully to avoid being over the quota in 2017. Remember, if it exceeds a quota by one pound in 2017, individual states will have quotas.

CHAIRMAN BALLOU: Mr. Brown. I should have clarified that we're really looking for comments having to do with menhaden; but not on menhaden management issues. You're welcome to go on, but eels do not seem relevant to this Board's meeting.

MR. BROWN: I've only got about one more minute and I'll be done.

CHAIRMAN BALLOU: Go ahead.

MR. BROWN: Okay. With a quota of approximately 900,000 pounds and only 20,000 pounds at 2 percent, this should be considered good management. There are many things that cause this; with an amendment every three to five years, eel population increases, and with less effort and better harvest. You've heard me say before best science available is a guesstimate. Reviewing my statements, it was a poor choice of words, and so many assumptions into fishery management.

Fishery management has many assumptions. It assumes that harvest reports are correct. It assumes that the data collected gives a true representative of the biomass, spawning stock, age classes, et cetera, and then draws an equation to manage the resource. Let's not have any triggers that mandate a reduction. Let's bring these matters back to the Full Board of the Atlantic States Marine Fisheries Commission for commonsense solutions; and remember, this applies to all species, no triggers with mandatory reductions.

CHAIRMAN BALLOU: Is there anyone else from the public that would like to address the Board on any issue pertaining to menhaden that is not on today's agenda?

**AMENDMENT 3 FOR FINAL APPROVAL**

CHAIRMAN BALLOU: Seeing no hands, we will move on to Item 4 on the agenda; which is Amendment 3 for final approval. This is clearly

the main focus of this meeting; and here's how we plan to proceed.

First, Megan Ware to my right will be reviewing the management options in the draft amendment. I believe she has about a 20 minute presentation. If any of the Board members have any burning questions for Megan at the end of her presentation, we can take those up; but my preference would be to move through the other presentations first, then return to questions on key parts of the amendment on an issue-by-issue basis, which is how we plan to move through the next 11 hours or so.

Megan's second presentation will summarize the public comments received during the public hearings and public comment period for the amendment. Megan will then summarize, or Major Kersey perhaps, I'm not sure who, will then summarize the Law Enforcement Committee report on the amendment; and take any questions on it.

Then for our fourth and last of our initial presentations, Jeff Kaelin will summarize the AP, the Advisory Panel report on the amendment and take any questions. We will then be ready to roll up our sleeves and begin addressing the first major issue in the amendment; which is reference points. We will allow ample time for questions before getting into motions. If all goes well, we will finish up with reference points by 5:00 p.m. today or thereabouts; and then recess until tomorrow morning, at which time we will take up TAC, allocation, and the remaining issues in the amendment. With that Megan, the floor is yours.

#### **REVIEW OF MANAGEMENT OPTIONS AND PUBLIC COMMENT SUMMARY**

MS. MEGAN WARE: Today we'll be reviewing Draft Amendment 3 and the associated comments. Just for an overview, the Chairman just spoke about this, but I'll actually be

combining the management options and the public comment summary in one presentation; I mean I'll try and focus on those public comments.

For an overview of the public comment that we received, for public hearings there were 15 hearings conducted in 13 jurisdictions; ranging from Maine through Florida, 602 individuals attended those hearings. For written comment, a total of 158,106 comments were received. The vast majority of those comments were received through form letters.

However, 99 organizations did submit comments on the draft amendment, and the remaining comments (about 450), generally came from individual stakeholders; including commercial fishermen, recreational fishermen, and concerned citizens. I'm going to jump right into the reference point options.

Just to orient everyone to the screen, the five options are going to be on your left; and I'll highlight which one I'm talking about. Then these are the same figures that are used at the public hearings, so it's just a reminder as to what those reference points look like. The red dotted line was our fishing rate in 2016.

Option A is single-species reference points. For this option the Board would continue to use the single-species reference points in place; and the Board would not pursue ecosystem reference points for menhaden. Here the solid black line is our threshold; and the dotted black line is our target, so that red line is below both the target and the threshold. According to this reference point we are not overfishing.

Next is Option B; which is the BERP continues to develop menhaden-specific ERPs, and in the interim we use our single-species reference points. Here it's the same graph, the same reference points. For this reference point we are not overfishing. Option C is again the BERP continues to develop menhaden-specific ERPs; and in the interim we use the hockey-stick

control rule, which recommends a fishing mortality rate that linearly decreases with changes in biomass until 40 percent unfished biomass, at which point there is a moratorium on fishing.

Here the solid green line is that maximum fishing rate when we're at 100 percent unfished biomass; and the dotted green line is the recommended fishing rate for our current abundance. This reference point is saying that we are fishing at a higher rate than we should be; based on our current biomass.

Option D, again the BERP continues to develop menhaden-specific ERPs, and in the interim we use the 75 percent rule of thumb; which recommends a fishing mortality rate that achieves 75 percent unfished biomass. That is represented here with the mustard colored line. That red line is just above the mustard colored line, so according to this reference point we are overfishing.

Then finally, Option E. Again, the BERP continues to develop menhaden-specific ERPs, and in the interim we would use a reference point that recommends a target fishing mortality rate that achieves 75 percent unfished biomass, and a threshold mortality rate that achieves 40 percent unfished biomass. Here the solid blue line is the threshold, and the dotted blue line is the target; so we're just above the target but well below the threshold. I have received several questions about what action is associated with either a target or a threshold.

I just took some of the text from the draft amendment to preemptively address some of these questions. What this says is, if the current  $F$  exceeds the threshold level, the Board will take steps to reduce  $F$  to the target level. If the Board exceeds the target, but is below the threshold, the Board may consider steps to reduce  $F$  to the target level. If current  $F$  is below the target  $F$ , then no action is necessary to reduce  $F$ .

These are the public comments we received on the reference points; and it might be a little hard to see in the back, but these are the same tables that were in the meeting materials. The greatest support was for Option E, which is that 75 percent target, 40 percent threshold; those who supported E, commented on the implementation of ERPs now to account for menhaden's role as prey for larger fish, for whales and for birds.

Many commented that a precautionary approach is best for the long term management of this species; and will lead to stocking improvements for many other species. As a result, many individuals also commented on the economic benefits associated with this option; in terms of other commercial and recreational fisheries, as well as wildlife viewing operations such as whale watching.

Particularly in the Gulf of Maine and in Florida, individuals commented on the decline of other forage fish species, and the need to conservatively manage menhaden. In the southern states, individuals at the hearings commented that they have not seen the resurgence in menhaden populations that the northern states have seen.

The next most supported option was Option B. Those who supported Option B commented that the existing reference points are precautionary enough, while the BERP continues to develop menhaden-specific ERPs. Some questioned why drastic action is needed if the stock is not overfished, and overfishing is not occurring.

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There are two sub-options there. That green box can be allocated such that 50 percent goes to the reduction fishery and 50 percent to the state bait fisheries; or 30 percent can go to the reduction fishery and 70 percent to the state bait fisheries. This is our public comment. Obviously this table is quite large with all of the options; so I'm going to break it up a little bit.

But I'll just highlight that the two allocation options that got the greatest support were allocation based on TAC level, followed by fixed minimum. I'll start with that allocation based on TAC level, and discuss that as well as the disposition. The greatest support was for this allocation based on TAC level.

Those who supported Option F stated that this option looks to make all states whole, before allocating more quota to the bait sector, and that specifically the reduction fishery is willing to give a little once the pie is whole from the 2012 reduction. Those who supported this option generally stated that other allocation options represent a fish grab by the other states.

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The Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission convened in BWI Airport Marriot, Linthicum Heights, Maryland, Monday, November 13, 2017, and was called to order at 1:00 o'clock p.m. by Chairman Robert Ballou.

### **CALL TO ORDER**

MR. ROBERT BALLOU: I would like to call this meeting of the Menhaden Management Board to order. My name is Bob Ballou. I have the honor of serving as Board Chair. I would like to begin by extending a warm welcome to all Board members; as well as the many members of the public here in attendance, and listening in via the webinar. We deeply appreciate your time and interest.

Next I would like to introduce the members of staff and committee chairs who are here at this end of the table. To my immediate right is Megan Ware; the Commission's menhaden fishery management plan Coordinator. To Megan's right will be Jason McNamee; the Menhaden Board's Technical Committee Chair.

To Jason's right, or next going to my right is Dr. Katie Drew; the Commission's senior stock assessment scientist. Next to Katie is Shanna Madsen; the Commission's Fisheries Science Coordinator. To Shanna's right is Max Appelman; FMP Coordinator with the Commission, who will be handling the screen as motions are made and considered during the course of this meeting.

At the corner of the table is Toni Kerns; the Commission's Fisheries Management Program Director, and to Toni's right is Bob Beal, the Commission's Executive Director. To my immediate left is Jeff Kaelin; who serves as Chair of the Menhaden Board's Advisory Panel, and to Jeff's left is Major Rob Kersey, who serves as liaison to the Management Board from the Commission's Law Enforcement Committee.

Gathered around the table are the 48 members of the Commission's Atlantic Menhaden Management Board; representing 16 east coast states and our two federal partners. I'm sorry, 16 east coast states in jurisdictions from Maine through Florida; as well as our two federal partners, NOAA Fisheries and the U.S. Fish and Wildlife Service.

All Board members will be afforded the opportunity to participate fully, with regard to all matters that will be before the Board, with the exception of meeting-specific proxies; and I believe we only have one, who will not be able to participate in final voting on final action items. In my capacity as Board Chair, I will be exercising my prerogative to caucus and vote with the Rhode Island delegation; primarily for the purpose of avoiding a null vote from Rhode Island on any given issue, slim as those chances may be. Before we jump into our agenda, for which we have a total of 11 hours allocated through the rest of this afternoon and tomorrow, please indulge me for about two minutes for some brief opening remarks. Without knowing, or even having a reasonable guess as to how this meeting will unfold, I do know one thing and I know it with absolute certainty; and that is that we have reached a major milestone with regard to Atlantic menhaden.

That milestone is characterized by our universal recognition of the soaring importance of this resource; the ecosystem services it provides, and the enormous numbers of people who value and depend on the resource as a source of income, and as a lynchpin of the marine environment along the entire east coast.

On behalf of the entire Board, I want to express our deep appreciation for the many thousands of people, indeed hundreds of thousands of people from all walks of life, who have contributed to the development, analysis, and consideration of the issues that are before us today and tomorrow via Amendment 3.

The contributions from the scientific community, fishing community, environmental community, and all others, including those wearing no particular hat other than one that might read "I care" are duly noted, highly influential, and deeply appreciated. In particular I want to give a shout out to staff, members of the Plan Development Team, and members of the several committees and workgroups who have all lent enormous support to the process; ushering us to where we are today.

This meeting, whatever the outcome, indeed constitutes a milestone for all the reasons just mentioned. Milestones are neither beginnings nor ends; they are points along a journey. With that let's now move forward with our journey; and to all my esteemed colleagues on the Board, may we be guided over the next eleven hours or so by the spirit of doing what's right. Amen.

#### **APPROVAL OF AGENDA**

CHAIRMAN BALLOU: Our first item on the agenda is the agenda itself. Before I seek input from the Board, I would like to offer one clarifying suggestion and one minor tweak. First, with regard to Agenda Item 8, which reads Set 2018 Atlantic Menhaden Specifications, I suggest clarifying it to read, Set 2018 (Annual or Multi-Year) Atlantic Menhaden Specifications.

That exact wording is already set forth in the meeting overview; and speaks to the fact that the Board will be deciding upon a total allowable catch, or TAC, for the fishery, and deciding whether to set it for one year or more than one year. As such, I suggest clarifying the wording for Item 8 as indicated; to better reflect the nature of that agenda item.

Are there any objections to making that clarification? Seeing none, we'll make that clarification. Second under Item 4, I would just like to suggest that we reverse the order of two of the four presentations. After Megan

provides the management option review and the summary of public comments, I would like to move next to the Law Enforcement Committee report, and then immediately follow with the Advisory Panel Committee report.

I suggest that only because I think the flow might work a little better. Are there any objections to that really minor tweak? Seeing none; we'll make that minor tweak. Does anyone else on the Board, or does anyone on the Board have any other recommended modifications to the agenda; yes, Rob O'Reilly?

MR. ROB O'REILLY: Before I make a recommendation it may be solved by a question, which is other than Item 8, there is no specific mention as to the order of business for the biological reference points and the allocation as to where they fit within this agenda. If there is already information on that that would be fine, otherwise I will make a recommendation.

CHAIRMAN BALLOU: My intent with regard to Item 4 is to take up the Amendment 3 issues; beginning with reference points, and then proceeding with allocation and the other issues in the amendment. As currently proposed, we would then conclude Amendment 3, and move on to specifications for the fishery; as the item after that. Right now that is the proposed order of business. Do you have a suggested revision to that? Rob O'Reilly.

MR. O'REILLY: I would just wonder why the quota setting doesn't precede the allocation; because certainly one is going to bear on the other, and I just wondered if there was given any thought to that by staff for this meeting.

CHAIRMAN BALLOU: We'll give it a lot of thought at this exact moment; if you want to recommend making that change.

MR. O'REILLY: I would move that change to establish the quota setting to precede the allocation.

CHAIRMAN BALLOU: The request as I understand it is to amend the agenda by inserting Item 8; which is final action on spec setting into Item 4, which is final action on Amendment 3, such that as we are moving through the provisions of the Amendment, which we plan to take up in the order presented in the draft. When we get to allocation methods, we will pause consideration of the amendment issues to take up final action on spec setting; then continue with the rest of the provisions of the amendment. Is that your request?

MR. O'REILLY: Yes, simply to have the specification prior to the allocation.

CHAIRMAN BALLOU: I realize I gave it more words, but I just wanted to make it clear as to what I understand the intent to be. Is there any objection to that request by any members of the Board? Eric Reid.

MR. ERIC REID: Does that preclude any motions that might be bundled in one shot from being discussed at the same time?

CHAIRMAN BALLOU: My interpretation is that it would not; provided that we first move through reference points, after that there can be bundling. Any further discussion is there any further yet concerns? Dennis Abbot.

MR. DENNIS ABBOTT: Going along with Eric's question. Could we not have a more inclusive motion, but yet divide the question at that time if necessary?

CHAIRMAN BALLOU: If it's the will of the Board we'll do that. It will be my recommendation as Chair that we first move through reference points and then take up the other issues in either a bundled form or issue by issue; whichever the Board would prefer. Seeing no other hands, I will take that to indicate that there are no objections to revising the agenda as recommended by Rob O'Reilly. Are there any other recommended changes to the

agenda? Seeing none, oh I do have one; I'm sorry, yes Dr. Rhodes.

DR. MALCOLM RHODES: This isn't to change the agenda, but just a quick question. We'll need a Policy Board meeting. Would we have that before the close of this? Would we adjourn, then have Policy Board, not only to accept these actions but also we had some actions at the South Atlantic Board that we need to get accepted by the entire Commission. I just wanted to know where in the order that comes.

CHAIRMAN BALLOU: Thank you for the question. I'll refer to Bob Beal to answer it.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Yes, Malcolm, you're correct. At the end of the Menhaden Board meeting, once all the decisions are made for Amendment 3, as well as the specifications for next year and any subsequent years. The Menhaden Board will adjourn; we'll go into a Business Session. The Business Session will tackle Amendment 3, the final approval for menhaden, as well as the cobia FMP that was approved by the South Atlantic Board; so at the very end, hopefully tomorrow afternoon, early afternoon.

CHAIRMAN BALLOU: Anything further on the agenda? Seeing no hands, the agenda as revised stands approved.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN BALLOU: We are now onto the next item which is approval of the proceedings from the Board's last meeting, held on August 2, 2017. Are there any recommended changes to the minutes?

Seeing none; is there any objection to approving the minutes as proposed? Seeing none; the minutes stand approved by consent. I don't see our stenographer, but I assume this meeting is being recorded; and I just received a nod in the affirmative on that.

**PUBLIC COMMENT**

CHAIRMAN BALLOU: Next on the agenda is Public Comment, Item 3.

This is an opportunity for anyone from the public who would like to comment on any issue that is not on the agenda for this meeting, to do so. Given the nature of the agenda, this is a very narrow opportunity. Through the public comment process the Board has already sought and received extensive and valuable public comments on all components of the draft amendment, and all 158,106 comments are before the Board as part of our meeting materials.

That part has been done and done well. When we get to the issue of setting specifications for the fishery, there will be an opportunity for public comment on that issue; but for now the floor is only open to comments pertaining to non-agenda items, that is items not related to menhaden management. We have only ten minutes allotted for this portion of the agenda, which means we have a hard stop at 1:23. We have just one person signed up, and I am going to go to that person first, and that is Mr. Robert T. Brown. Welcome, Mr. Brown.

MR. ROBERT T. BROWN: My name is Robert T. Brown; President of the Maryland Watermen's Association. I want to talk to you today about eels. The Eel Management Plan, if the east coast quota is exceeded by 10 percent in one year, or less than 10 percent in two consecutive years, it sets off a trigger that all states must have individual quotas. The quota was exceeded by approximately 20,000 pounds or less than 2 percent in 2017. Maryland has already, with its fishermen, agreed to close Saturday's and Sunday's harvest during the months of September, October, and November; and will close the entire month of December. Hopefully to avoid being over the quota in 2017. Remember, if it exceeds a quota by one pound in 2017, individual states will have quotas.

CHAIRMAN BALLOU: Mr. Brown. I should have clarified that we're really looking for comments having to do with menhaden; but not on menhaden management issues. You're welcome to go on, but eels do not seem relevant to this Board's meeting.

MR. BROWN: I've only got about one more minute and I'll be done.

CHAIRMAN BALLOU: Go ahead.

MR. BROWN: Okay. With a quota of approximately 900,000 pounds and only 20,000 pounds at 2 percent, this should be considered good management. There are many things that cause this; with an amendment every three to five years, eel population increases, and with less effort and better harvest. You've heard me say before best science available is a guesstimate. Reviewing my statements, it was a poor choice of words, and so many assumptions into fishery management.

Fishery management has many assumptions. It assumes that harvest reports are correct. It assumes that the data collected gives a true representative of the biomass, spawning stock, age classes, et cetera, and then draws an equation to manage the resource. Let's not have any triggers that mandate a reduction. Let's bring these matters back to the Full Board of the Atlantic States Marine Fisheries Commission for commonsense solutions; and remember, this applies to all species, no triggers with mandatory reductions.

CHAIRMAN BALLOU: Is there anyone else from the public that would like to address the Board on any issue pertaining to menhaden that is not on today's agenda?

**AMENDMENT 3 FOR FINAL APPROVAL**

CHAIRMAN BALLOU: Seeing no hands, we will move on to Item 4 on the agenda; which is Amendment 3 for final approval. This is clearly

the main focus of this meeting; and here's how we plan to proceed.

First, Megan Ware to my right will be reviewing the management options in the draft amendment. I believe she has about a 20 minute presentation. If any of the Board members have any burning questions for Megan at the end of her presentation, we can take those up; but my preference would be to move through the other presentations first, then return to questions on key parts of the amendment on an issue-by-issue basis, which is how we plan to move through the next 11 hours or so.

Megan's second presentation will summarize the public comments received during the public hearings and public comment period for the amendment. Megan will then summarize, or Major Kersey perhaps, I'm not sure who, will then summarize the Law Enforcement Committee report on the amendment; and take any questions on it.

Then for our fourth and last of our initial presentations, Jeff Kaelin will summarize the AP, the Advisory Panel report on the amendment and take any questions. We will then be ready to roll up our sleeves and begin addressing the first major issue in the amendment; which is reference points. We will allow ample time for questions before getting into motions. If all goes well, we will finish up with reference points by 5:00 p.m. today or thereabouts; and then recess until tomorrow morning, at which time we will take up TAC, allocation, and the remaining issues in the amendment. With that Megan, the floor is yours.

#### **REVIEW OF MANAGEMENT OPTIONS AND PUBLIC COMMENT SUMMARY**

MS. MEGAN WARE: Today we'll be reviewing Draft Amendment 3 and the associated comments. Just for an overview, the Chairman just spoke about this, but I'll actually be

combining the management options and the public comment summary in one presentation; I mean I'll try and focus on those public comments.

For an overview of the public comment that we received, for public hearings there were 15 hearings conducted in 13 jurisdictions; ranging from Maine through Florida, 602 individuals attended those hearings. For written comment, a total of 158,106 comments were received. The vast majority of those comments were received through form letters.

However, 99 organizations did submit comments on the draft amendment, and the remaining comments (about 450), generally came from individual stakeholders; including commercial fishermen, recreational fishermen, and concerned citizens. I'm going to jump right into the reference point options.

Just to orient everyone to the screen, the five options are going to be on your left; and I'll highlight which one I'm talking about. Then these are the same figures that are used at the public hearings, so it's just a reminder as to what those reference points look like. The red dotted line was our fishing rate in 2016.

Option A is single-species reference points. For this option the Board would continue to use the single-species reference points in place; and the Board would not pursue ecosystem reference points for menhaden. Here the solid black line is our threshold; and the dotted black line is our target, so that red line is below both the target and the threshold. According to this reference point we are not overfishing.

Next is Option B; which is the BERP continues to develop menhaden-specific ERPs, and in the interim we use our single-species reference points. Here it's the same graph, the same reference points. For this reference point we are not overfishing. Option C is again the BERP continues to develop menhaden-specific ERPs; and in the interim we use the hockey-stick

control rule, which recommends a fishing mortality rate that linearly decreases with changes in biomass until 40 percent unfished biomass, at which point there is a moratorium on fishing.

Here the solid green line is that maximum fishing rate when we're at 100 percent unfished biomass; and the dotted green line is the recommended fishing rate for our current abundance. This reference point is saying that we are fishing at a higher rate than we should be; based on our current biomass.

Option D, again the BERP continues to develop menhaden-specific ERPs, and in the interim we use the 75 percent rule of thumb; which recommends a fishing mortality rate that achieves 75 percent unfished biomass. That is represented here with the mustard colored line. That red line is just above the mustard colored line, so according to this reference point we are overfishing.

Then finally, Option E. Again, the BERP continues to develop menhaden-specific ERPs, and in the interim we would use a reference point that recommends a target fishing mortality rate that achieves 75 percent unfished biomass, and a threshold mortality rate that achieves 40 percent unfished biomass. Here the solid blue line is the threshold, and the dotted blue line is the target; so we're just above the target but well below the threshold. I have received several questions about what action is associated with either a target or a threshold.

I just took some of the text from the draft amendment to preemptively address some of these questions. What this says is, if the current  $F$  exceeds the threshold level, the Board will take steps to reduce  $F$  to the target level. If the Board exceeds the target, but is below the threshold, the Board may consider steps to reduce  $F$  to the target level. If current  $F$  is below the target  $F$ , then no action is necessary to reduce  $F$ .

These are the public comments we received on the reference points; and it might be a little hard to see in the back, but these are the same tables that were in the meeting materials. The greatest support was for Option E, which is that 75 percent target, 40 percent threshold; those who supported E, commented on the implementation of ERPs now to account for menhaden's role as prey for larger fish, for whales and for birds.

Many commented that a precautionary approach is best for the long term management of this species; and will lead to stocking improvements for many other species. As a result, many individuals also commented on the economic benefits associated with this option; in terms of other commercial and recreational fisheries, as well as wildlife viewing operations such as whale watching.

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quota is automatically pooled and distributed to states or regions.

Of the options in the amendment, the greatest support was for leaving the quota transfer process as is. Those in favor of this option stated that if the states agree to transfer quota then that is fine. There was some support for Option B, and those who supported this option liked the idea of accountability measures, and liked the idea of dissuading states from perpetually exceeding their quota.

Finally, Option C quota reconciliation, those who supported this commented that completing quota transfers at the end of the year eliminates the race to secure unused quota from specific states. I will note that the greatest support was for no quota transfers. Many commented that this supports horse trading of quota between the states.

Some commented that quota transfers are intended to use every bit of unused quota in the fishery. Next is quota rollovers, there are four options here. Option A is no quota rollovers, Option B is up to 10 percent of the total quota could be rolled over if unused. Option C is a 5 percent quota rollover; and then Option D is 50 percent of your unused quota can be rolled over.

The greatest support was for no quota rollovers, which is Option A. Those who did not support quota rollovers commented that there is generally a reason why a state does not catch all of its quota; and this could foreshadow issues with stock abundance. Others commented that unused quota should not be rolled over, as this leaves fish in the water.

Others noted that quota rollovers distort the quotas initially assigned. Of those who supported quota rollovers, Option D received the greatest support. Those who supported Option D commented that quota rollovers make sense; because if you underharvest what was a safe and allowable catch that unused quota is

allowed to spawn before it is harvested the next year.

Others commented that whenever a state goes over its quota it has to pay it back; so it is only fair that if a state is under its quota it should be allowed to roll that unused quota over into the next year. Next is the incidental catch and small scale fisheries provision. There are six options here, three of which are on the screen now, and what ties these three options together is that the incidental catch is not included in the TAC.

Option A is a trip limit for non-directed gears, so things like pound nets and gillnets. Option B is a trip limit for non-directed gears and small scale gears. This includes the pound nets and the cast nets, and Option B is probably closest to what we have now. Under Option C, we build on that so we maintain that trip limit for the small-scale gears and the non-directed gears, but we set a cap at 2 percent of the TAC.

This is not a set aside, but a threshold by which we measure landings in the incidental catch fishery; and if that cap is exceeded by more than 10 percent in a single year, or by any amount two years in a row, the Board is triggered to take action. The next three options are tied together, in that incidental catch is included in the TAC; and we do this through set asides.

Option D is a 2 percent set aside for incidental catch after the quota is met. Option E is a 1 percent set aside for small-scale gears, and what is unique about this option is that it's for their harvest year round. Regardless of what allocation option the Board chooses, the Board can secure quota for those small-scale gears, and then Option F, all catches included in a TAC. Once the directed quota is met the fishery closes.

The greatest support was for Option F, so no incidental catch fishery. Those in favor of this option supported the statement that all catch needs to be counted towards the TAC. Some

stated that the set aside was designed to accommodate certain fishing methods; but this should not be needed if reallocation is successful. Others expressed concern that it's created a loophole in the fishery.

Those who supported continuation of a trip limit, so either Options A or B, were generally commercial fishermen; and they commented that they are dependent on the current bycatch provision. They frequently commented that unless there is enough quota for a year round fishery, an incidental catch trip limit is needed to sustain the fishery and provide bait for the lobster, crab and recreational fisheries.

Some also noted that with stationary gears fishermen have no controls over what swims into the net; and without a trip limit there would be a lot of dead discards. Those who favor the set aside, so Options D or E, generally supported the idea of including all catch in a TAC, but also wanted to provide a way to reduce discards in the fishery.

They expressed concern that without some sort of incidental catch provision, menhaden would be discarded and the resource wasted. Some fishermen did express concern with a set aside; mainly that since it is a coastwide set aside catch in one state could cause an overage, which would then have to be paid back on a coastwide level, and there was no support for the catch cap and trigger.

Next is the Episodic Events Program. We have three options here. We can keep the set aside at 1 percent of the TAC. Option B is to increase the set aside to 3 percent, or Option C is 0 percent; so that would remove the Episodic Events Program. The greatest public comment was for Option C, so that's ending the Episodic Events Program.

Many commented that if reallocation is successful this set aside will no longer be needed. Others commented that while the set aside was appropriate during stock rebuilding,

menhaden are consistently in New England, and so the set aside is no longer appropriate. Some were against the Episodic Event Set Aside, commenting that it artificially increases New England state quotas.

Those who supported the continuation of the set aside, either Options A, or B, stated that his is needed in the New England state; particularly if a fixed minimum approach is not chosen for allocation. Some commented that it is a worthwhile program which presents fish kills. Finally, our last issue is the Chesapeake Bay reduction fishery cap.

There are three options here. We can maintain the cap at the 87,216 metric tons, reduce the cap to 51,000 metric tons, or Option C is to remove the cap. There are sub-options under A and B which allow for a percentage of unused cap to be rolled over to the next year. For public comment, the greatest support was for reducing the cap to the 51,000 metric tons, and having no rollovers. Those who supported reducing the cap commented that the Chesapeake Bay is an important nursery area for many species, and this is an opportunity to provide greater protection to the Bay. Some commented that if the cap is not being met there are not enough fish in the Bay; and others commented that if the reduction fishery actually caught the cap it would be devastating to the Bay ecosystem.

Those who supported maintaining the cap commented that the cap was started as a way to restrict and ultimately eliminate the reduction fishery. They commented that science shows that there is no localized depletion in the Bay, and there is no scientific basis for the cap. A similar rationale was stated for removing the cap. With that I will take any questions on the public comment.

CHAIRMAN BALLOU: Questions for Megan, recognizing that we will be returning to each of the major management issues for thorough vetting starting with reference points, after the

next two presentations. That said, John McMurray.

MR. JOHN G. McMURRAY: Megan, could you put that I think it was the third or fourth slide; it was a quote about the 40-75 percent. I think, well there it is. The Management Board may consider management measures to reach target. But there is no mandate to manage for 75 percent. If I'm reading this correctly, as long as the Board is in between 40 and 75 percent we're good. Well, maybe you could clarify that before I go on.

MS. WARE: Yes, the management trigger is at the threshold; that's what this is saying. The Board is required to take action when you hit that threshold.

MR. McMURRAY: Mr. Chairman, so there is some management flexibility when you're within those two parameters, there is no set thing that we have to manage for.

MS. WARE: The action is required at the threshold.

CHAIRMAN BALLOU: I think that's a fair characterization, the way you put it, John; other questions for Megan, yes, Craig Pugh.

MR. CRAIG D. PUGH: Megan, I noticed that there was repetition of names between the state hearings; is that commonplace? Was that accounted for?

MS. WARE: It is commonplace for menhaden, I would say. How I did those is if they attended the hearing then they were accounted for at that hearing. If an individual did attend multiple different hearings at different locations and they spoke multiple times, they got a vote. Their comment was written down at each hearing.

## **LAW ENFORCEMENT COMMITTEE REPORT**

CHAIRMAN BALLOU: Other questions. Seeing no hands; our next issue is the Law Enforcement Committee report. Megan, is that you? Okay, we'll go back to Megan for that.

MS. WARE: I'll be very brief here. Whoever was at the Policy Board meeting for annual meeting did hear this. But the LEC met to discuss Draft Amendment 3 at annual meeting. There was really no major enforcement concerns brought up by the LEC. But the discussion did focus on the incidental catch provision, or that bycatch provision. The comments were generally that there is no enforcement challenge with a trip limit. However, a simple closure of a directed fishery when quotas are met is less of a drain on enforcement resources. That's the comment that they gave.

CHAIRMAN BALLOU: Okay, any questions on the Law Enforcement Committee report; yes, Pat Keliher?

MR. PATRICK C. KELIHER: Was there any discussion about the difference between the incidental and small scale fisheries within the Law Enforcement Committee; as far as enforceability? There have been a lot of comments in Maine about the small scale fishery turning into a directed fishery, and the ability to even prosecute; just by saying we're targeting something else.

MS. WARE: There were no comments given by the LEC on that specific issue.

## **ADVISORY PANEL REPORT**

CHAIRMAN BALLOU: Other questions? Seeing none; we'll go to our last presentation; that will be Jeff Kaelin presenting the Advisory Panel report. Jeff is going to run through the whole report briefly, and I've asked him and he's agreed to return tomorrow morning to sort of refresh on the key issues that we'll be addressing tomorrow. He'll run through the

whole report now, and then he'll be back first thing in the morning to refresh. Jeff.

MR. JEFF KAELIN: Good afternoon members of the Board, members of the public. I'm Jeff Kaelin with Lund's Fisheries, and I'm privileged to sit as the AP Chair. We met on October 26. I'm not going to read the seven pages of summary that Megan prepared. It's on the table. But we will go through the slides that quickly summarize the discussion.

I wanted to thank the Chairman and the leadership of the Commission for allowing us to have a face-to-face meeting last month. It was very well attended. Several advisors are here today. Everyone has had a chance to review these slides and the report. We attempt to run these meetings on a consensus basis.

But as you can imagine, that is very difficult to arrive at in most cases, so we just simply record the comments to make sure that all the AP members have their perspective recorded. Motions are appropriate by the process outlined by Robert's Rules of Order, so we had some motions; none of which passed.

On reference points, I'll read through these to get them on the record. There were six AP members that supported Option B; stating that the stock is in good condition, so no need to alter course. Today we're fishing below the F target, and well below historic levels. The Board is already precautionary in managing menhaden. Concerns about applying generalized forage fish rules to menhaden due to lack of stock recruitment relationship and fishery selectivity, commented that other reference point options don't represent the best available science.

There was confidence in the BERP process. Ecological reference points would be appropriate when there is more confidence in the science specific to the menhaden resource. Option B supports industry and provides stability for businesses. Concerns that the

goalpost by which menhaden is managed keep changing. The final comment that increased menhaden abundance in recent years is due to favorable environmental conditions, and not the implementation of the 2013 TAC. Four members supported Option E. Generalized rules for forage fish are more appropriate for menhaden, given their ecosystem role. There is a need to leave fish in the water for ecological purposes. Option E allows the Board to fulfill the needs of the bait states, while keeping the stock moving in the right direction.

Important to implement ecological reference points now, the concern with the BERP completing the menhaden-specific ERPs by 2019. Option E doesn't prescribe how quickly the Board needs to get to the F target, so the Board can phase in management to the 75 percent unfished biomass reference point.

Comment that the 2013 TAC after that was implemented stock abundance increased, so there is a need to err on the side of caution and continue to control catch. On allocations, two AP members supported a fixed-minimum approach. There was support for a 2 percent fixed minimum, giving states that don't want a quota can give it back.

A recommendation that unused quota on November 1st be given to other states. Current allocation method prevents some states from having a fishery; including those that have fishery infrastructure. Three AP members didn't support a fixed minimum approach, moving the Commission away from a history-based allocation was argued. Method does not recognize states which have made an investment in the fishery, and that there are clear losers with the fixed-minimum approach, including New Jersey and Virginia.

Two AP members supported the allocation based on the TAC level. The argument was that if that makes states whole again prior to implementation of the TAC in 2013, and then a greater percentage can be allocated to the bait

fishery. The recommendation that the Board use the 2012 to 2016 timeframe for quota above the 212,500 metric ton threshold in Option B.

On the allocation approach, one AP member supported the 70/30 split between reduction and bait. This is Option E, the disposition quota, the freestanding option. All states have joined the Commission's compact and everyone should get a share of the resource it was argued, and that this option gives the bait fisheries more without increasing the TAC.

Three AP members didn't support the 70/30 split between reduction and bait as the freestanding Option E. Allocation option is arbitrary and not based on historic landings. Under that option it was argued. You can't transfer quota between the bait and reduction sectors without focusing on history, catch history.

Two AP members supported the 2009 to 2011 timeframe. This does not include the years when the harvest was capped under the TAC was the suggestion there. On general comments there was one AP member that recommended that trawls not be included in the small-scale fleet list of fisheries of gear types.

On transfers and rollovers four AP members supported quota reconciliation with accountability rules, Options B and C as outlined by Megan previously. This prevents a state from continually exceeding its quota. Six AP members supported quota rollovers; two supported the 50 percent rollover, Option D. Three supported 5 or 10 percent quota rollovers, but not higher, which are B and C, and stated there may be extenuating circumstances, which makes a small quota rollover reasonable. A 10 percent rollover is used in federal fisheries management, it was pointed out. One supported a rollover of 10 percent or higher. On the incidental catch there were four AP members supporting Option F, no incidental

catch fishery, concern there that the catch is not counted towards the TAC. The 6,000 pound trip limit bridged the gap between Amendments 2 and 3, but should not be used after implementation of Amendment 3.

Bycatch competes with the directed bait fishery, it was argued. One AP member did support an incidental catch limit, and pointed out that the 6,000 pound trip limit provides critical fishing time for the bait fishery. In general comments the current bycatch allowance was noted as a loophole; particularly for purse seines.

It reiterated that trawls should not be included as a non-directed gear type, and a recommendation to clarify definitions of gear types, particularly if purse seines are prohibited to harvest under the trip limit. Finally episodic events, three AP members supported the continuation of this set aside. If there is no reallocation of the quota New England needs this program.

The program should remain no matter what allocation New England gets; but should be increased to 3 percent if New England states don't get more quota. Some New England states have the capacity to harvest large amounts of menhaden; so the set aside is needed today. The set aside is further needed to prevent fish kills.

Three AP members didn't support a set aside. New England states are no longer having episodic events; abundances have been higher for several years. The set aside shouldn't be needed with allocation and a higher TAC. Episodic Event Program has just created another fishery, and this is not equitable that other states have their quota but no access to Episodic Events Program.

Quickly the AP report on Chesapeake Bay Cap, two AP members supported the status quo; saying that studies have shown the possibility for localized depletion in the Bay is small. Three

AP members supported reducing the cap to 51,000 metric tons with no rollovers; Option B and Sub-option B.

Studies on localized depletion were inconclusive and couldn't determine it was happening, concerned about increased reduction harvest from the Bay if cap is not reduced. Chesapeake Bay is an important spawning ground for many species and warrants greater protection. Concerns about the change in ownership of Omega Protein with Cook Aquaculture purchasing that company recently; an international company which may not have a vested interest in the Bay, it was stated.

One AP member supported the removal of the cap, Option C. Since there is a coastwide TAC there should be no Bay cap, and then Virginia purse seiners were already restricted from going in the majority of the Bays; in the Maryland portion of the Bay and the rivers. On the TAC, six AP members supported increasing the TAC.

This is where we had some motions, none of which were successful; very interesting discussion, all with good humor I might add, Mr. Chairman. Two supported the 280,000 metric ton TAC; comment there that one state lost access to 60 percent of the menhaden fishery due to 2013 TAC implementation. One member supported the 250,000 metric ton TAC, helping the industry, not going to hurt the stock. One supported 240,000 metric ton TAC, 20 percent increase. New England Council uses a risk policy of a 50 percent chance of exceeding the OFL, where the Mid-Atlantic has a risk policy of a P-star 40 percent. TC projections show the 314,500 metric ton TAC has a 50 percent risk of exceeding the F target only. One supported a 220,000 metric ton TAC to offset bad years in a fishery you need good years, and to the current cap TACs harvest levels in mediocre years.

Two AP members supported maintaining the TAC at 200,000 metric tons; stating that regardless of the reference points chosen the

TAC shouldn't increase under Options A and B, and don't need to decrease under Option E. The increase in the TAC could negate the progress that has been made in stock abundance since 2012, these members argued.

The AP did make a series of motions regarding these options, but as I stated earlier none passed. In general comments, and there were consensus on these points. It was recommended the AP could be better utilized by the Menhaden Board to provide information on annual changes and trends in the fishery; including AP comments in the Commission's FMP review process was recommended, in a process similar to the Mid-Atlantic Council's Fishery Performance Report.

Finally, the AP expressed concern the fishermen harvesting under the 6,000 pound trip limit today are selling menhaden from their bunt, this is a purse seine gear terminology, and not reporting landings. Need for greater enforcement at the state level was recommended. Finally, the AP recommends that in the future the Technical Committee complete multiyear projections, and that the Board consider setting multiyear TACs for two to three years. With that Mr. Chairman, I end my report, thank you.

CHAIRMAN BALLOU: Questions for Jeff on the AP report. Dennis Abbott.

MR. ABBOTT: Jeff, how many people participated in your discussion? I note that on a lot of issues there were differing amounts of opinions. Were some people ambivalent to certain things? Would you explain that a little bit to me?

MR. KAELIN: Yes, we had 12 members of the AP. For those of you who know me you may be surprised I didn't say much, as the Chairman. That changed the count a little bit. I mean I really think it's important for the members to speak. We had a quorum. I think there are about 18 members of the AP right now.

Again, I wanted to thank the Board for recently repopulating the AP. If it doesn't add up, you know some people were quiet I guess on certain matters, Dennis. But what we wanted to do is just kind of record the breadth of opinion around the table; so the numbers might not add up, and it may just be that some people were more vocal than other people.

CHAIRMAN BALLOU: Russ Allen.

MR. RUSS ALLEN: Thank you for that report, Jeff. Just a quick question and it might be better for tomorrow's discussion. But I just wanted to hear the rationale behind the one AP member not wanting to include trawls in the small-scale fisheries; if you could give me a little bit more information on that.

MR. KAELIN: Sure. I think that the feeling was that the trawl fishery can produce fish at volumes at least as large as the purse seine fishery does. Since the Board had been clear that purse seines shouldn't take advantage of the 6,000 pound incidental set aside up to this point, it was noted that it may be an oversight by the Board to have trawls listed as a small-scale gear, because of their capacity to take large amounts of fish.

CHAIRMAN BALLOU: Additional questions for Jeff, seeing no hands, again Jeff will be back tomorrow morning to kind of refresh on some of the issues that we'll be taking up tomorrow. Questions along the lines of Russ's would be particularly appropriate at that time. But again, thank you, Jeff for your leadership.

The AP has really done an awesome job right through this entire process; and through you to the members, I know the Board very much appreciates the very thoughtful input that has been provided.

### **AMENDMENT 3 REFERENCE POINTS**

CHAIRMAN BALLOU: Okay, now let's turn to the first issue under Amendment 3, which is

reference points; and open the floor to questions from the Board on the reference point options set forth in the draft amendment.

This will be questions only for now. The time for motions will soon follow. I think Megan may be putting up sort of a summary slide just to orient ourselves. But the floor is open to any questions that any Board members may have on any of the issues associated with the reference point options. Does anyone have any questions? Rob O'Reilly.

MR. O'REILLY: I wonder if we could get a brief summary of the assumptions that the Technical Committee listed. There was a recent memorandum that was provided to the ASMFC; and in that there were a number of assumptions related to the different reference points. I wonder if that is available.

CHAIRMAN BALLOU: I'm going to give Jason McNamee the microphone, Chair of our Technical Committee.

MR. JASON McNAMEE: Mr. O'Reilly, could you repeat your question one more time, just to make sure I'm giving you the right info?

MR. O'REILLY: Yes, there were assumptions listed by the TC related to the generalized approaches to the biological reference points. That was just, I think at the end of the week last week; so that would be the first part. Do you have that in front of you?

MR. McNAMEE: I think so.

MR. O'REILLY: It was things such as lack of a stock recruitment situation. There were about four or five different assumptions listed and if you have that then I'll follow up to save time. I would also appreciate hearing how A and B relate; since they're menhaden specific, what type of assumptions there are there. I realize with both there will be recruitment assumptions, but I hope that gives you enough information to respond.

MR. McNAMEE: Yes, I think so. What I think you are interested in is we refer to them as caveats for the projections. I've got that in front of me. If I had my presentation that I'm going to give tomorrow open I could get you a quicker version. But I'll do my best here. We've got a set of general caveats that apply to both; the ecological reference point projections as well as the standard projections that we run, and then a subset that is just about the ecological reference points. One of the first caveats that we noted was that the fisheries are assumed to continue from this point forward.

In the projections they're assumed to continue at their current proportions of total effort. That's important with regard to how selectivity works with the projections. Recruitment, so we're not using a stock recruitment relationship in any of the projections. It's sort of a re-sampling of the existing range of recruitment that we've seen through the time series.

But what's important about that is that we're using a median; and so if conditions are that recruitment has a series of years with low recruitment or high recruitment that is going to impact the performance of those projections. Another big one is that we're using the Baranov Catch Equation, and so that is assuming that catch is occurring for the entire year.

Changes to things like seasons and other items like that again will impact the performance of the projections; because of that underlying assumption. Just a general statement that projections, whether it be menhaden or any other fish in the sea, are highly uncertain. One other less clear one that we often include is that we are basing a lot of the projections on these functional forms; so a single selectivity function, a single recruitment function which I've just described.

What we don't include is structural uncertainty in the model itself. We include a lot of uncertainties and we sample within the range of those uncertainties; but when it comes to the

model that we're using, we're not doing a full blow simulation analysis to identify what that uncertainty might be. Then we had a set of caveats on the interim reference point calculations as well. You're interested in those as well?

CHAIRMAN BALLOU: Rob.

MR. O'REILLY: I guess in particular what I had read was since the BAM model uses a dome-shaped approach, and the generalized Pickett et al do not that with a biomass-based approach, the selectivity did not go down with age with those particular approaches, and could. In fact, there was a statement and it's been a few days since I've read it, but a statement about how that would denigrate the spawning stock, because it was on all ages. Can you comment on that?

MR. McNAMEE: Yes. What you stated is correct. That is one of the major differences between the models used to develop the generalized interim ecological reference points that you all are looking at; versus the single-species menhaden reference points that we've been working with. That selectivity is one of the big issues, or differences not issues.

One of the big differences between the two approaches. You characterized it correctly that in the ecopath with ecosim approaches, the selectivity sometimes they do split it out by groups of the ages. But in either case the selectivity is constant for those groups; whether they're a single group or multiple groups.

Whereas, in the BAM model we do use dome shaped selectivities in a couple of spots, not in all of them, but in a couple of the fleets. That statement that you made is correct. I'm a little puzzled about the linkage you made. The other comment you made is correct that with some of the interim reference points you could fish the population down. It's because those are developed without that context of the age structure; and that was through work that we



did with the Pikitch et al group, to try and create this translation between the two. That is true that selectivity is a part of that but it's not the complete cause of that.

CHAIRMAN BALLOU: Next I have Emerson Hasbrouck.

MR. EMERSON C. HASBROUCK: I have a three-part question, relative to B-0. I'm wondering the first part of the question is what is the value of B-0? Part two is how is it estimated? Then the third question or the third part of that question is what is the 95 percent confidence intervals around that estimate?

CHAIRMAN BALLOU: Jason.

MR. McNAMEE: Excellent questions. I think I will start with the middle question; because that's the one that I can answer most directly. The concept of B-0, I think you were asking, how it is estimated. The way that we generally do that and the way that we did it here for menhaden is you run a projection.

What you do with that projection is you remove fishing, so you set F equal to zero. Then you run that population forward. What's happening at that point is all of the population dynamics are being dictated by recruitment; so new fish coming in, and it's based on all of those assumptions I just talked about a moment ago and natural mortality.

That's the only removal that's occurring, and so what happens over time is that population will reach an equilibrium level. It's that battle between the removals of natural mortality and the recruitment coming in, and I've got a plot I'll show you tomorrow maybe; depending on what happens today, where you can kind of see what it looks like.

In the projections it kind of goes up and wobbles around; and then it eventually flattens out through time, and that's when that equilibrium level is reached. What that value is

you'll have to give me some time. I don't have that off the top of my head. I'll have to hunt that down. Then I don't remember your final question. I have a capacity of two questions, and then I need it repeated.

MR. HASBROUCK: Actually the third part of the question may be more important than the first part. But without the first part I don't know if you can answer the third part and that is; what are the 95 percent confidence intervals around that estimate?

MR. McNAMEE: Yes so that will also, I'll need to look at that. I imagine there are confidence bounds, although the interesting thing with these projections is the uncertainties. The further out you run it they get stable and they shrink. I would have to look that up as well. I don't know that off the top of my head either.

CHAIRMAN BALLOU: Additional questions. Was it Alison or David or both? Okay, David, I saw your hand first. David Blazer.

MR. DAVID BLAZER: I have two questions, and Jason I'll do one at a time, if that will help; because it's kind of a long question. You know there is a lot of confusion surrounding the ecological reference point options; because of the necessity to translate everything into the same currency, based on the total biomass.

This approach does not explicitly account for changes in population reproductive potential; which seems to have led to particular concern about the threshold of the 40 percent unfished biomass. In the projection memo that we got last week, on Page 3 it makes a comment that the workgroup has concerns about the use of reference points that preserve a certain proportion of a total biomass, instead of a spawning stock biomass or fecundity, because they may result in a level of spawning potential well below the fecundity limit.

It goes on to say the level of fishing pressure that reduces the total biomass to the B of 40

percent is higher than anything seen in the history of the fishery; and results in almost total loss of spawning adults. That statement indicates that Option E is kind of risky for the stock; which is a little worrisome, given the discussion that we're having today. I'm trying to get an explanation. If you could explain to me some of the issues and the risks of applying this ERP option as it goes forward.

MR. McNAMEE: That was an excellent retelling of the memo. I think you captured everything really well. I think with regard to Option E. The intent of the Technical Committee, the risk is highest with regard to that threshold level, so that is what those comments about nothing seen before in the fishery and that part of it was with relation to that threshold level.

I think you've captured that well and you're interpreting our intent well. I'm trying to think how deep in the weeds you want to get on this. I think when we received the task from the Board it seemed pretty straightforward to us. I'm sure to you all as well. But then when we sat down and started to think through, we understand this population through our age-structured assessment.

That was where we first ran into this issue of, well we need to figure out a way to translate between how the generalized ERPs are developed and the information that we have available. This was in consultation with the Pikitch et al folks, not the whole group, but a subset of them, on a call.

What we came up with was total biomass, one of the main reasons for that is it gave us a way to weight the F levels that are coming out of the model. When we give you in the single-species context the F that is occurring, sort of our benchmark F that's on a specific subset of the population that the most fishing is occurring on, and so this is different than that.

This is now taking that F and spreading it out across the population; and you need to be

careful when you do that and you need to weight it by the abundances in those various age classes. That's why we went with total biomass. I guess the final point is if you were to ramp up fishing mortality to the level that would allow you to achieve that threshold level, the vast majority of the biomass exists in zeros, ones and then as you enter in the twos the population really starts to decay for fishing and natural mortality and all of those reasons.

That is why that foible of that particular part of the ERPs exists, and that is you can really whack those older ages and drive them down to near zero; but you still have enough biomass in the zeros and ones and twos to meet that metric. But were you to then compare it to your fecundity metrics that you had been using that is where you would see that big difference.

CHAIRMAN BALLOU: Dave, did you have another question?

MR. BLAZER: I'll hold off on my second question for right now. I'm good, thank you.

CHAIRMAN BALLOU: Ritchie White.

MR. G. RITCHIE WHITE: Jason, if one was to select Option E and one was to adopt a quota that was status quo or slightly above status quo; and the plan allows us to fish over the target, so we could do that. Would it be precedent setting to fish over the target for other species?

My thought process is that it would not be, in that this is not single-species management if we select E, where I believe all the rest of our other species we manage are single-species. That is my question. Could you comment on whether you think it would or would not be precedent setting for some of the other species that we manage?

MR. McNAMEE: Me and Katie will tag team this one. I guess as far as precedent goes, I would suggest that in fact most of the federal fisheries fish to a limit and not a target; and so I think

that would be standard for how a lot of the federal fisheries are managed. I think depending on the management plan that you have, it dictates whether you manage to the target explicitly or I guess the intent of having a target is that's your eventual goal.

How long it takes you to get there and that sort of thing I think are usually negotiated within the management plan. But I guess that would be, I don't think it is precedent setting with other fisheries. Other fisheries don't have targets at all and they fish to that limit and try to stay above or below that limit; depending on which metric. But I think Katie wanted to add.

DR. KATIE DREW: Yes just to add to what Jay was saying is that in plenty of our other fisheries we actually do fish above the target; and as long as we're not above the threshold, we kind of let it go. I think striped bass is probably on everybody's mind recently, and that is. But that's because we specifically have a trigger within the plan to say if you're above the F target.

Even if you're below the threshold for a certain number of years and your biomass is between the target and the threshold, then you do have to come back down to the target. But in most of our other plans it's the threshold that triggers management, so we may or may not be above the target for those other fisheries. But you don't do anything about it until you go over the threshold; so in that case menhaden would be in the same boat as all of our other fisheries.

CHAIRMAN BALLOU: Next I have Allison Colden.

DR. ALLISON COLDEN: I don't want to belabor the point on the selectivity between the ERPs and the single-species reference points, but I did want to get clarification Jay, on a comment that you made in responding to Mr. O'Reilly's question. I think you said that in certain sectors of the fishery and in certain places that you don't apply domed-shape selectivity; and so can

you clarify in what situations how the selectivity is addressed?

MR. McNAMEE: Yes the current single-species assessment has a number of fleets. If you remember this is the first time that we had split it into north and south; then there is bait and reduction. I'm pretty sure we're using dome-shaped selectivities in the southern fleets; and the idea behind that is at certain times of the year in particular, the older, larger fish are migrating further north.

It makes biological sense to use a dome-shaped selectivity for those fisheries that are occurring to the south. In the north we're using a logistic, which would be flat-top selectivity, at least for the survey indices up there, and I think for the fishery as well. I would have to dig in to give you exactly which ones we're applying domes and which ones we're not. But there are differences within the model.

CHAIRMAN BALLOU: Follow up?

DR. COLDEN: Yes, quick follow up, Mr. Chair. Do you know at what age in the logistic selectivities that you're moving from low to high selectivity by the fishery?

MR. McNAMEE: I was contemplating just winging it, but I think that is something I could look up relatively quickly and get back to you on.

DR. DREW: Just to add to that. For the single species model for the assessment, we are using the multiple fleets. But then to develop the reference points and to do the projections, we're using sort of a weighted average of a single selectivity to combine all of those different fleets into a single, sort of averaged fleet, based on how much effort they've applied in the past and what their selectivity curves look like.

Some fleets go up and flatten out; some are completely dome shaped, and the end result

sort of average for the reference points, ends up being that dome shaped on the basis of how much effort the fisheries have applied in the past. The different fisheries are sort of composited together into a single selectivity curve for the reference points.

DR. COLDEN: Thank you.

CHAIRMAN BALLOU: Pat Keliher. Roy Miller.

MR. ROY W. MILLER: Thinking about the questions that have previously been asked, and the answers offered by Jason and Katie. With regard to Option A, obviously if I could summarize what I've heard thus far, we're not bound to manage to the F target. But there is a lot of room between the F target and the threshold. What guidance do we have when it comes to picking a TAC that will be somewhere between the target and the threshold?

DR. DREW: There is essentially nothing written down in terms of guidance then, and it would be the Board's prerogative to decide. We can give you projections and say, this is what the stock is going to look like in the near term, over a couple years, under this level of fishing pressure. We can show you some different options between the target and the threshold, which as you say for Option E is a really wide range. Then it would be up to the Board to decide how they felt about the risk, how they felt about sort of the rewards of that.

The way essentially that we've done for our single-species process up until now to discuss, here is the risk of exceeding the target, or here is the risk of exceeding the threshold, and here is the associated TAC and how do you feel about that? How does that impact the fishery? How does that leave fish in the water for ecosystem management? It would be the Board's decision to balance those different competing objectives within the limits that the projections indicate.

CHAIRMAN BALLOU: Roy.

MR. MILLER: Katie, if I could. Would you have the ability to be fairly timely in providing such analysis; were specific TACs to be suggested between now and tomorrow?

DR. DREW: Between now and tomorrow? No. That's not happening. If we knew about what you guys wanted ahead of time, and we had plenty of lead up time. It's not excessively time consuming, but we would like some kind of limits on the range of options you would like.

CHAIRMAN BALLOU: Nichola Meserve.

MS. NICHOLA MESERVE: Jay, you answered a question about the Option E threshold and putting that F rate in the context of the histories of F, and the effect on spawning adults. I'm trying to put the single-species F threshold into a similar context; that's based on a maximum rate from 1960 to 2012. Is it also higher than most of the history of fishing mortality rates, and what is the effect there on spawning adults?

MR. McNAMEE: I may be missing your question, and so how I think I'm understanding it, let me say it back to you and then you can correct me. I think you're still thinking about the Option E and where that threshold is, and trying to compare where that is set relative to what that would look like from the single-species model where that threshold would get us with regard to that. Is that kind of what you're asking?

MS. MESERVE: Yes. Essentially I'm trying to see if the difference in the point estimate between those two thresholds is very different in what it produces in the stock; and how you would compare them. There was a statement about the Option E threshold is higher than almost anything seen in history. Can the same be said also for the single-species F threshold?

DR. DREW: No. The single-species F threshold, the earliest years of the time series are not included in the years that we've looked over.

As a reminder, the way the TC developed those reference points is we took a time period when we thought the fishery was relatively stable, in terms of the yields that it was able to produce, and the population was also relatively stable, and also recruitment showed variability but did not show extreme lows.

We thought over that time period that was a reasonable set of fishing pressure. The target is the median of those years of fishing pressure, and the threshold was the maximum observed during that time period. Prior to that time period, you did see Fs in the fishery that was higher than that maximum.

There was a point within that time period the maximum is the threshold that we proposed, so during that sort of stable period we met that once in the prior to that period. There definitely was fishing pressure higher than that; whereas for the Option E threshold, it really is beyond that F value that comes out as beyond anything we've ever seen in the fishery. In terms of then translating that into fecundity reference points, which is what – so we came up with the F rate based on sort of the empirical or historical observation of the fishery, and translated that into how much fecundity would we expect sort of under long term equilibrium conditions.

I think that is 36 percent for the threshold, so you would expect to see about 36 percent of the egg production of a virgin stock. Whereas, if you translated that into the Option E, it's almost complete loss of the spawning stock or the fecundity, under that sort of long term equilibrium conditions or assumptions.

MS. MESERVE: A quick follow up. I think it's the 21 percent MST for the threshold. How does that compare to benchmarks that are used for other species? What percent are often targets and threshold levels?

DR. DREW: The fecundity estimates or the fecundity reference points are very similar to

the spawning potential ratios that you may be familiar, or SPR in other fisheries, where some of sciaenids which are quick to reproduce, quick to mature, very fecund. Those have targets and thresholds of about 20 percent to 30 percent SPR. Other species have reference points in the 30 percent to 40 percent range, in terms of targets and thresholds.

For sturgeon, we recently tried to look at one for about 50 percent. But again, being a slow to mature, long-lived species that has different, but you have a different risk tolerance for some of that life history. The 20 to 30 percent that we're seeing that we're estimating comes out of those reference points is comparable to some of our other reference points that we use for quick to mature, very reproductively capable species.

CHAIRMAN BALLOU: Robert Boyles.

MR. ROBERT H. BOYLES, JR.: I'm confused. I had my son in the woods last night hunting, and he had very specific instructions on what he was to do. The quarry came within sight. He aimed at the target. He shot. He missed; and he asked me, Dad what happens if you miss? It was kind of a profound question at the time.

We wandered around the woods last night for two and a half, three hours looking, following trails, and we made a mess. I have a son back home who is a little gun shy now, and we've got quarry wandering around the woods perhaps, wounded. Do they go on another property and make a mess for someone else?

Did they stay in the woods where we were hunting to provide biomass, feed for the system? I'm just concerned. You know we call the target a target. I think it's important that we're very, very clear about our intentions on how we manage the fishery. These are good questions and good technical questions.

Mr. Chairman, I would submit that some of these elements are more policy oriented, and I

appreciate the TC and their efforts to answer these questions. But I think I'm becoming more and more confused in terms of target. I told my son, aim for the target, aim for the target. That's what your goal is that's your objective, and if you miss there are pretty serious implications.

CHAIRMAN BALLOU: Additional questions, going next to Adam Nowalsky.

MR. ADAM NOWALSKY: Keeping with the same theme of the questions or concerns about Option E. I think we've made it very clear on the record here the earlier slide that the Board would have the flexibility under Option E to select a TAC; perhaps all the way up to the threshold, which would represent a 250 percent plus increase from where we are now.

As I look through the public comment letters, many of those comment letters that advocated for Option E, also advocated for other options in the document, i.e. no rollover, lowering of the Chesapeake Bay cap, removal of full accounting for incidental catch. That would be characterized as more conservative oriented.

I'm wondering what the sense was from the public hearings. As I look at these suggestions that we use E, which is potentially the least conservative option in this document. What is the thought that the public really expected us to do with Option E? What is the sense you got from the public hearings from input to the Commission from any other commissioners around this table today that have spoken with the members of their public, about what the public expects us to do if we select Option E?

MS. WARE: I can, I'll say briefly talk about those who supported Option E. There was support, I'll say up and down the coast for Option E. Those who tend to support Option E did see it as a more conservative approach to the management of menhaden.

They generally liked that it was an ecosystem approach, and that it was important for them to move to that now, as opposed to waiting for the BERP Workgroup to complete their menhaden-specific ERPs. There were comments in conjunction with the reference points about keeping the TAC at 200,000 metric tons or reducing it. Those were frequently comments given in conjunction with Option E.

CHAIRMAN BALLOU: I have Pat Keliher next.

MR. KELIHER: I appreciated Robert Boyles' hunting analogy. I finally understood one; and it reminded me that it's hunting season. I passed when I was going to ask my last question, and then Roy promptly basically asked the question I was going to bring forward. My concern with Option E is the fact that we seem to be leaning in the direction of knowing that we're going to be going over target; as it's associated to Option E.

I think that is problematic. While federal, Jay your comment on federal fisheries do it all the time. This isn't a federal fishery. I think it is precedent setting for the Commission to move in that direction; and I have a lot of concerns with taking that type of direction. I have many other comments associated with Option E, and I'll reserve those for later discussions.

CHAIRMAN BALLOU: Dr. Duval.

DR. MICHELLE DUVAL: Hopefully just a very quick question. If I recall correctly, as of the update to the benchmark assessment that we just received in August, even though I guess the target is 36 percent MSP Katie, that we are actually at 48 percent MSP. Is that correct as of the update to the benchmark?

DR. DREW: I don't have the number in front of me, but I believe we are above the threshold for the biomass. I believe we are above the target as well; but I don't have the numbers in front of me, I'm sorry.

DR. DUVAL: Just a follow up, Mr. Chairman. I think in terms of the associated fishing mortality rate, my recollection was that we were fishing at a rate that would allow for 48 percent of the maximum spawning potential. Not necessarily that we were actually above the fecundity target.

DR. DREW: Yes, I believe that is also true that the long term equilibrium fecundity associated with that would be about 48 percent.

CHAIRMAN BALLOU: Additional questions. John McMurray.

MR. McMURRAY: I just want to clarify what I think the public expects with E. I think that the intent, at least what the public perceives is the intent is that we would strive to manage towards 75 percent. But there is flexibility there. It doesn't have to be done in one year. It doesn't have to be catastrophic to industry. But it is a goal, and it's where the public expects us to go with this.

CHAIRMAN BALLOU: Dave Bush.

MR. DAVID E. BUSH, JR.: I guess a question, two-part question, very easy I would hope. In general for I guess the panel, as you would call it up front. How long have we been managing with the current single-species reference points that we're currently using, and what has been the general characterization of the overall biomass since we've been using them? Very general would be fine.

DR. DREW: We've been using the current single-species reference points, essentially since the last benchmark assessment. We've set the quota a few times based on that; and in general the biomass has trended up since the lows that we saw in the late '90s to the early 2000s, and it's maintained close to our SSB or fecundity target.

CHAIRMAN BALLOU: Follow out, Dave?

MR. BUSH: Yes, just very briefly. If we continued on this, I know this is hypothetical and you all have many crystal balls at your disposal. Continuing on this current pattern, using the biological reference points we have until we have something species specific, do you all see great concern in continuing with where we're headed at the moment?

DR. DREW: I think the BERP has always advocated for waiting until the reference points that are ecosystem reference points specific for menhaden can be developed. We would not advocate that if we thought that current management was detrimental to the single-species health of the stock. I think we can do what we can do with menhaden-specific reference points. It will be great and a great movement forward for the stock, but I don't think we would have advocated for that if we had serious concerns about the single-species management.

CHAIRMAN BALLOU: Are there any other questions, Emerson that would be your second, which I'm going to allow you. But first I want to make sure to give anyone else a chance to who hasn't yet asked a question to ask. I see no other hands, so Emerson, second bite at the apple.

MR. HASBROUCK: I'm a little confused as well. I thought that I had things pretty well squared away. But then in the response to Nichola's question I'm a little confused. In the document for public review, Table 1 is the reference point alternatives for Options A through E. My assumption there is that these have all been converted, if you will, to a common currency; that currency being the biomass weighted F, so that the single-species reference points in that table have been converted to this new currency. Is that correct?

DR. DREW: Yes, and that's why they don't look exactly. If you looked at the assessment update those numbers would be slightly different from what we sent out to public comment. They've

all been converted into the same scale; that biomass weighted F.

CHAIRMAN BALLOU: Additional questions on reference points? I see a hand in the audience, but we're not taking public comment; that has already been taken through the public comment period. This is for the Board's purview only at this point. Having exhausted questions, and realizing that the next phase would be motions, and given the timing. Let's take a ten minute break; biological break, ecological break, whatever suits your fancy. We'll be returning at 2:51 exactly. Thank you.

(Whereupon a recess was taken.)

CHAIRMAN BALLOU: Okay first, I think Jason McNamee was able to come up with an answer to one of Allison Colden's questions; so Jason.

MR. McNAMEE: Yes. If I remember the question, you were wondering where the logistic curve kind of peaked at what age. I looked that up and it is age 3 is where it reaches that plateau.

CHAIRMAN BALLOU: Allison.

DR. COLDEN: That is implying that the selectivity for ages 3 plus is constant?

MR. McNAMEE: For that combination of fleet and fishery, yes.

DR. COLDEN: Okay and the selectivity for the ERP options were constant at ages 2 and above? Is that correct?

DR. DREW: For the ERP options it was the dome shaped sort of composite selectivity that basically 2, 3 and 4 is where it is the maximized; and so it's much less at age 0 and 1, and less on ages 5 and 6.

DR. COLDEN: I'm sorry, for Option E.

DR. DREW: Oh, so for Option E that is how we calculated it. We used that composite selectivity that we see in the fishery from the model. If you're talking about sort of the EWE models that were used to develop those rules of thumb, those are essentially flat-topped curves that treat either all of them as a single selectivity or sort of small versus large.

CHAIRMAN BALLOU: Okay, I now open the floor to motions on the reference point options. Would any member of the Board like to make a motion? David Borden.

MR. DAVID V. BORDEN: I provided the motion to the staff. **I would like to move to adopt reference point Alternative E: BERP Workgroup continues to develop menhaden-specific ERPs with interim use of 75 percent Target and 40 percent Threshold as described in Amendment 3.**

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Nichola Meserve? It's been moved and seconded to adopt the Reference Point E: BERP Workgroup continues to develop menhaden-specific ERPs with interim use of 75 percent Target and 40 percent Threshold as described in Draft Amendment 3; discussion on the motion, David.

MR. BORDEN: I'm going to try to do this quickly, because I know we have divergent views around the table. There are going to be a lot of people that are probably going to want to speak to the point; also are possibly amendments or substitutes. I just point out for the record that the Commission has a long history of recognizing the critical importance of menhaden to the ecosystem along the coast; and particularly the two specific predator populations, namely striped bass where we've had a major focus.

I went back at one point and looked at the history of this. The history actually goes back to 2001, and I think if I dug further it would go back even further than that. In those days we



embarked on what we called multispecies management. Recently what we've done is we've kind of changed that into the efforts to focus on developing menhaden-specific ERPs.

Unfortunately, the menhaden-specific ERPs, personally I wish they were available today and we could have that debate. But that is not the case. They're not likely to be developed for a number of years. Once they do, most of the people around the table know that we will have to go through a fairly lengthy process to adopt those; which will include a full consideration of a lot of the assumptions that are included in that.

We haven't seen that analysis. One of my conclusions for making this motion in particular is that I think that process is probably going to be delayed beyond where we project it to be. Hopefully I will be proven wrong by the working group. I think this personal view that after 16 years of discussion, I think the Commission needs to get on with fashioning an ecosystem strategy on menhaden.

I think that transition, what I would view since the species-specific targets are not available at this point that we really need to begin the transition through this alternative. I would also note that the Commission has pretty wide latitude. There were a lot of really good questions Rob O'Reilly and others have raised very valid concerns about different issues.

But I would also point out that the Commission has wide latitude on where they set the TACs, which will drive what the removal rates will ultimately be. Just a few more comments, from a Rhode Island perspective menhaden are critical to the ecosystem in the state, namely because Narragansett Bay is one of the major economic drivers of the economy of the state. We have a very vibrant commercial and recreational fishery in the state; including charterboats and party boats. It's kind of the foundation of that is the state of the resource in Narragansett Bay, and that includes menhaden.

Menhaden are a critical economic issue within the state. In recent years things have gone well. We've had fairly high abundance of adults, which has been very pleasant for most of the constituents, and we've also had fairly high abundance of peanut bunker.

I went fishing yesterday in fact, and there were vast schools of peanut bunker still around, even at this point. Things are going well. But my point in making this, I think we need to start the transition from the discussion phase we've been in for 16 years, to moving into the implementation phase. I think this motion; coupled with an appropriate TAC will do that.

CHAIRMAN BALLOU: (Audience Applause) Could I see a show of hands of those who would like to speak in favor of the motion; or perhaps speak in the direction of the motion. Just keep your hands up. We're just going to put together a list, and then I'm going to alternate between pros and cons, so keep your hands up until Megan gives me the okay sign. Show of hands now of those who wish to speak in opposition to the motion. Keep your hand up, please. We'll alternate and I'll begin with someone in opposition, and I'll just start to my right. Pat Keliher.

MR. KELIHER: Mr. Chairman, I actually have a motion to substitute along with my comments.

CHAIRMAN BALLOU: Go ahead.

**MR. KELIHER: I would move that we substitute Option B: The BERP Working Group continues to develop menhaden-specific ERPs with the interim use of single-species reference points.**

CHAIRMAN BALLOU: Is there a second to that motion to substitute; seconded by Russ Allen? It's been moved and seconded to substitute Option B: BERP Workgroup continues to develop menhaden-specific ERPs with interim use of single-species reference points as described in Draft Amendment 3. Here is how I

would like to handle Board consideration of both the substitute and the main motion.

I would like to afford the Board the opportunity to consider both on an equal basis. I will take comments on both motions; alternating between those wishing to speak in favor of the substitute motion, and those wishing to speak in favor of the main motion. During the process of considering both motions, both will be amendable.

Once both motions have been fully considered, there will be a vote on the substitute in its original form or as amended. If passed it will become the main motion and be subject to final consideration. If not passed we will return to the main motion in its original form or as amended; and it will be subject to final consideration unless there are any other motions to substitute, Yes, Dennis Abbott.

MR. ABBOTT: I don't like to disagree with the Chair, but when Pat made a motion to substitute that becomes what's on the floor. I don't see that we can be discussing the main motion now, because we have a motion to substitute. I think the conversation should be around the substitute motion, and if that passes then it becomes the main motion, and if it fails we go back to the main motion. I think that would be in order in Robert's Rules. I don't think we can discuss both of these motions; because we have one motion before us, and that is the motion to substitute. Correct me if I'm wrong, or I'll look to Bob Beal for a little more guidance. I will say that the Chair does have some latitude, but.

CHAIRMAN BALLOU: I certainly don't like to disagree with my colleague from New Hampshire, but. I do acknowledge that this approach is not one that we typically follow. It is however consistent with Robert's Rules. The intent is to provide for fair and balanced consideration of the two alternatives.

If only the substitute were considered and potentially passed, then the proponents of the original main motion would not have the opportunity to advocate for and possibly improve their motion. This approach will enable the Board to fully consider both options at the same time before voting on them. That is my intent to move forward, unless there is an appeal that is my ruling in terms of how I plan to handle it.

MR. NOWALSKY: One other point of order.

CHAIRMAN BALLOU: Go ahead, Adam Nowalsky.

MR. NOWALSKY: I had heard you mention the ability to amend the main motion during this process. I would contend that should not be allowed; with regards to Robert's Rules allowing one motion at a time that we would be modifying. I don't see how we could go back and amend the original motion until we dispense with all of the subsequent motions.

CHAIRMAN BALLOU: I believe we can do it as described, but I would look to Bob Beal for at least an acknowledgement that this might be at the discretion of the Chair.

EXECUTIVE DIRECTOR BEAL: We made it farther into this meeting than I thought without having to get in the middle of a few commissioners, it's great. The initial conversation between you and Dennis, you know Option B and Option E is the crux of a lot of what is going to be talked about today.

I don't know how you can separate out those conversations. I think they are going to be intertwined regardless of how that is packaged, as far as procedurally. To Adam's point, kind of you, Mr. Chairman and Adam are both right. But I think logistically to sort out substitute motions or motions to amend, to two different motions at the same time is really hard to track.

I think if you let the conversation sort of evolve and talk about the pros and cons of Option B and E at the same time. I think that part is very manageable. But I would suggest to just have any potential amendments to motions just focus on the substitute for now; just for ease of tracking those, and making sure everybody is on the same page.

CHAIRMAN BALLOU: I appreciate that guidance. I'm going to follow it. I'm going to go forward as I had suggested, however I will take Adam's comment to heart and not allow amendments on either motion, unless or until they become a main motion. At which point they would be then opened up to further amendment. Thank you for that. I think we've reached a good compromise in terms of process, and now I'll look to Pat Keliher, who was the maker of the substitute motion for your comments on your motion. Pat.

MR. KELIHER: I made a comment earlier in the day about the precedent setting nature of it, and I do believe there is precedent setting as it relates to Option E. Option B is a continuation of Amendment 2; Amendment 2 is working. The fishery is expanding in size and in scope. When I say scope I mean geographically.

Managers already implemented precautionary reference points, while the BERP was finishing its work that was done with Amendment 2 in 2011. The statement of the problem for that action was the new reference points are intended to be interim benchmarks, while the Commission's Multi-Species Technical Committee develops the ecological reference points, so we would be continuing in that vein.

Option E, any of the options in the document, management is based on total biomass rather than reproductive capacity. While this is appropriate for the goals of providing more forage, it ignores the reproductive capacity of the stock. More biomass won't necessarily increase the reproductive output if most of that biomass is in juvenile fish.

Lastly, I would say the biomass approach ignores the known reproductive capacity of the stock, in particular ignores the known increase in fecundity with age at size. Therefore, it is inconsistent with the goals that we did set forth in Amendment 2. I have other comments, but I'll save those for a later time.

CHAIRMAN BALLOU: Thank you, and now I do plan to alternate between pro and con, and now given the new context it might be appropriate to start your comments with an indication of which option, either the main motion or the substitute you support and why. Next I have Ritchie White.

MR. WHITE: I support Option E, only if there is a TAC attached to it. I was just prepared to amend, which I'm not doing it now. I was prepared to amend that to add a quota. If Option E with a quota did not pass, then I'm willing to support Option B. My plan is if Option B fails, I'm going to make a motion to amend Option E to add a quota.

CHAIRMAN BALLOU: Next I have Steve Train.

MR. STEPHEN TRAIN: I'll speak in favor of the substitute motion, Option B. I was going to speak against Option E. I think one of the reasons I support Option B, Pat was real good about speaking about. But I hadn't decided until I got here where I was. During this meeting I heard at least three people say Option E is bad for the spawning stock biomass.

Now I'm not a scientist, I'm a fisherman, but that is one thing I learned a long time ago. If something is bad for the spawning stock biomass you don't do it. If Option B is better for that for the population of the fish, I'm for Option B.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: My comments are in regards to the main motion. You know this is an issue that we have struggled with considerably, and you know

we absolutely support the management of menhaden for its ecological role. We believe that one of the great benefits of the work that has been done by the Lenfest Forage Fish Taskforce and others is that it has raised awareness of the importance of forage species, and has provided managers with tools to evaluate the tradeoffs of different policy decisions. You know science does not tell us how to make those decisions; it just informs us what the impacts of those decisions could be. You know we support the types of approaches embodied in Option E and Option C, but we do have significant concerns about the metric, as others have expressed.

It's clear that while total biomass is absolutely the appropriate metric to meet the needs of predators; our concern is that it does not meet the needs of menhaden, and specifically that it is not protective of the reproductive component of the population that's actually producing the future biomass for predators. Other concerns have been expressed around the table about the TAC associated with the 40 percent biomass threshold, and the significant impacts that that would have on the mature ages in the population.

The department is offering extremely qualified support for Option E. Quite honestly we would prefer a metric that meets both the needs of predators and prey; which is why we are supportive of the efforts of the BERP Workgroup, and are anxious to implement the results of those efforts as soon as possible, and we appreciate all the efforts of the BERP Workgroup to date to work with the Lenfest Taskforce Members to develop the translations that we have in front of us.

CHAIRMAN BALLOU: Russ Allen.

MR. ALLEN: I'm speaking in support of Option B. I thought Robert and Pat hit some really good points that setting a target that you know you're going to exceed right off the get go is counter intuitive to what all the Boards that I've

ever served on have thought about. That really bothers me for some reason.

I thought Katie answered a question earlier really well, and that the Technical Committee, who we're supposed to listen to and we hear that constantly at the Board meetings. Listen to the Technical Committee, listen to the BERP, listen to the stock assessment folks, because they're the ones doing the work, and they're comfortable under the current reference points that we are right now.

They know that where we're going to be once the BERP group is done will put us in a better place. I don't see why we would change things in mid flow right here on something that seems to be working. You know our egg production is constantly ramping up, and I don't understand why we would change that now. It's not overfished, overfishing is not occurring. I think we're better off staying the way we are. I don't see the need to make this kneejerk reaction to reference points that aren't even menhaden based. I'll leave it at that.

CHAIRMAN BALLOU: Allison Colden.

DR. COLDEN: I wish to speak in support of the main motion, Option E. I think it provides a lot of positives, which would be helpful in managing the menhaden fishery. Some of these have already been touched on. First is the flexibility. Some of the other options that are included within the document don't include the type of flexibility that is afforded by Option E, while also applying an ecosystem context.

This is not a harvest control rule; it allows the Board to manage to a target that would be protective of the ecosystem and all of the predators that depend upon it. But we've already seen from Megan this morning that there are different methods by which the Board can reach those objectives, and I believe that we will be discussing those later.

The other one is the relative stability. In my interpretation of the current single-species reference point is that they can fluctuate, because it's based on a mean and a median the addition of additional data points, as we saw in this year's stock assessment update means that those reference points change over time, because they're informed by the information that is coming out of the surveys and the indices.

We saw particularly in the stock assessment update that the Northern Adult Index had a very strong influence on the estimates coming out of that assessment; and there were some additional comments by the TC about looking into that. I would suggest that the 75/45 percent of B-0 is the stable proportion of the population that may not be as influenced by those types of fluctuations. I want to also touch upon the comment that Robert Boyles had earlier about managing to a target. There has been a lot of discussion thus far about the threshold associated with Option E.

I would argue, as this Board seems to have done in the past is that managing to the target is really where we need to be. If we were to be discussing the single-species reference points in the same context as people are discussing fishing to the threshold of Option E, we would also be looking at dramatic increases in the TAC, which I don't believe many members of this Board would be in support of either.

In terms of looking at the single-species reference points, if we were to harp on the threshold of Option E, I would offer that we should also be considering what sort of TACs would be associated with fishing to the threshold of the current single-species reference points, and whether or not the Board members think that those levels of fishing are also appropriate.

Finally, I just wanted to bring to bear again the vast number of public comments in support of Option E. I think that it's very indicative of the

public's perception on this, how many people are following it. Obviously we have a room full of people here today; and I think that it should be within the back of all of our minds making this decision the types of activities that people wish the menhaden population can support, and the types of economic activities even beyond fishing that the ecosystem can support with a growing population of menhaden.

CHAIRMAN BALLOU: David Bush.

MR. BUSH: I guess to sum it up very briefly. I know that we've had a lot of conversation already and a lot of great points have been made. I support Option B. I'm looking at Option E, and I've heard great concern over many of the issues with it, such as an arbitrary TAC. Why would we have a target if it's irrelevant?

As long as you don't cross over the second line we're good makes plenty of sense to me, because I'm looking for direction as someone new here, trying to figure out why we're here. Why would we have a target at all if we're not going to pursue it? The second thing is the transition to an ecosystem-based fisheries management style. If we're going to do it let's do it right. Let's not just do it just because we've got to do it. Put one foot in front of the other until we get somewhere. We know where we want to be, we're headed there, and it's not like we've got another 16 years to go before we're going to see results. We've actually got fairly time-certain commitments on when this will be available to us. Thirdly, addressing the fact that we do have a roomful of folks in this room that have also seen increases in the menhaden fishery, and they want to continue to see these increases.

Those have been achieved by using our current single-species reference points; and understanding that we're going to be chasing a biomass down or the spawning-stock biomass down with Option E confuses me. It would

make no sense for us to set fire to the house we're trying to build.

CHAIRMAN BALLOU: Jim Gilmore.

MR. JAMES J. GILMORE: I'm actually not going to commit right now, because I have a feeling these things are going to be changing, so I have a question maybe to help me and maybe the other commissioner's to decide. Through the plethora of e-mails that we all got, communications particularly the last week, I think the one concern maybe with the second motion was that on paper we have ERPs coming in two years.

But a lot of the discussion doesn't have a lot of confidence in that. We've heard, well it won't be for five years, it won't be for eight years. A lot of the support on one really seems to stem from not believing that we're going to have ERPs in two years. The question, and I hate to put staff on the –

This is more a feeling from you guys, because it would be nice if we have the probability of hitting the target or whatever. What is the probability of us hitting ERPs in two years, again, I don't want a percentage but a sense that maybe you could help me and everyone else in the room decide? Are we really going to have them? I mean is there a confidence of that or is it something that will take a lot longer?

MS. WARE: I am hearing from the BERP folks at the table that they are cautiously optimistic that they will be ready for peer review in 2019.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: That was a good question, Jim Gilmore. Certainly Dave Borden started off with the main motion, and gave a number of situations that are normal to our lives, which is a lot of things take time. I am in support of the substitute motion; and the reason is I think everyone in this room is united already, some

are not as patient perhaps, and that's their choice.

I think that 2001 is a long time ago. My first memory of sort of looking at multispecies management in Chesapeake Bay was 1998. Everyone was very excited. We've maintained our excitement about ecosystem management in many different venues, and I don't think there is any reason not to continue that excitement and to look forward to it.

But we have to do it right. I'm not convinced that Option E is right, because it's not menhaden specific. About a year and a half ago or a year and three-quarters ago, I asked the Technical Committee when they came out and more or less indicated that the Pikitich et al approach was not for menhaden as such, because it wasn't menhaden specific. I came back about eight months ago; I'm using this loosely, and asked the same question, and the Technical Committee, which is a wonderful group said well, essentially we can accommodate our work to whatever we can. Whatever is put before us, and that's a good Technical Committee.

But at the same time, many of the comments that have been mentioned today are pretty startling to me. I do believe we have to manage to the target. I do believe that if we go down the route of Option E, we will have to have a situation where we look for 75 percent unfished biomass. I just believe that.

I also think that we haven't looked at the risks carefully. The risk to the reference point, I may be incorrect but I think we're at 46 percent of unfished biomass, and 40 percent is a real problem, essentially a moratorium. I also think there is a risk to the fleets, there is a risk to the communities, and I think that my timeline starts in 2010, where the Board was told it would be two to three years before we'd have the biological/ecological reference points.

But this takes time, and I think we need to make sure that we get it right. I'm not against anyone who wants Option E; it's just that I think the better course for management is to wait for the biological/ecological reference point group to finish their work. Now we hear it is 2019, a little bit of patience, we get it right. It's not going to be perfect

I think that Jay has already told us that in the workshop we had about a year and a quarter ago that you can't encompass everything into this approach. But you can certainly accomplish a lot more than we've been able to look at so far. The substitute motion is what I'm going to support, thank you.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: Originally when I raised my hand it was to amend the main motion to put a figure in there. I think that we've been hearing for some time now that overfishing is not occurring, we're not overfished and we should be increasing the quota. I thought there was a realization that we should modestly increase the quota from, presently I think it's 200,000 to some figure.

I was in support of Option E, and to put a number on that of somewhere in the vicinity of 216,000 metric tons would have been my motion. We did hear strong arguments, I thought on the one side; that even though we would be above the target we would be well, well below the threshold. It wouldn't be precedent setting, so therefore we wouldn't be doing anything so damaging. That was my original intent, and I'll leave it at that.

CHAIRMAN BALLOU: Adam Nowalsky.

MR. NOWALSKY: I think the comments, particularly from the public with regards to Option E, the expectation was clear. While it's great to hear the words of well the TAC right now is okay, or maybe as Mr. Abbott just alluded to an increase might even be okay.

That would move us further away from the target, and to Mr. Boyles' anecdote earlier, I hope that his son quickly learns that our biggest asset as human beings is to have a short memory. While that would be very beneficial to his son, I think it would be very detrimental to this Board in the not too distant future, when people are asking us why are you setting a TAC that is moving farther away from the target? That is the reason why I cannot support Option E at this time; and Option B would keep us at or below the target, which I think is consistent with the expectations of the public and the actions of this Commission as a whole.

CHAIRMAN BALLOU: John McMurray.

MR. McMURRAY: Allison covered some of what I was going to say, but I'll try to simplify it some for the public, and maybe take it a little bit farther. The public doesn't support Option B; because we have this benchmark stock assessment, a single-species stock assessment that allows us to increase, if I'm understanding correctly, by another 40 percent.

That's pretty scary, given what's happened and where we are now. With that assessment, we will continue every year to get pressure from industry to increase our quota. I'm sure that we're probably maybe will increase the quota again today or tomorrow. I think the idea with this interim 75/40 deal is to try to avoid some of that. The question is, and really this is kind of the first I'm hearing about it is the risk to the spawning stock biomass.

I think we could still go with Option E and clarify that the intent is to manage towards 75 percent, and I think we'll still be okay. I don't think it would be terribly hard to do that. Again, with the timeline, and I think everybody wants these menhaden-specific reference points and we want them quickly. But a lot of us find it hard to believe that we're going to have peer reviewed, ready for primetime reference points in 2019. They have to be

tested somehow. I'm not a scientist, I don't know that process.

But I do know that particularly if they appear like they're going to be constraining, the public is going to want to comment on them. I don't know how we do new reference points for a species, without doing at least an addendum. Anyway that is really the rationale for E, and frankly if we could get rid of some of that uncertainty I support Option E, and I think the vast majority of the public does also.

CHAIRMAN BALLOU: John Clark.

MR. JOHN CLARK: I think most of the points have been made. I mean I appreciate the concern the public has shown in support of E, but all the problems with it that have been reiterated around the table about managing, with the situation where we're already fishing above the target, and yet we're so far below the threshold stand.

For Option B, we want to manage with the best available science. Our BERP Working Group has several times come out in recommendation of continuing with the single-species reference points that we're now using until the new menhaden-specific ERPS are available. With those also, I just don't want to see another fishery that we take a reduction where we're not overfishing and overfishing is not occurring.

CHAIRMAN BALLOU: Nichola Meserve.

MS. MESERVE: I speak in support of the initial motion for Option E. Many of the points have already been raised for them, but there is a growing body of scientific work that supports the 75 percent Target and 40 percent Threshold. I feel that they provide an acceptable intermediary step to managing menhaden in the context of their environment, on our way to adopting menhaden-specific ERPs, which is the end goal from everyone around this table it sounds like. Because the Option E reference points are not specific to

menhaden, as raised some concerns from our Technical Advisors, which deserve some serious consideration.

However, it is because the Option E reference points are general that I have comfort in not immediately managing to the target and even with a possible increase in the TAC as has been suggested might be a motion to amend. There have been comments that the stock is growing and expanding since the Amendment 2 reference points have been put in place; but it's notable that the Board has not set a TAC that corresponds with that target.

The concern regarding Option E, the threshold there, it's certainly not my intention to manage menhaden to the threshold for either Option E or Option B. I feel that Option E will provide the Board with the guidance to set a risk prone TAC in the interim and safeguard the stock growth that we've seen since Amendment 2 was put in place, and support the wide age structure of menhaden that is responsible for the availability and abundance of menhaden throughout the range, including New England and the South Atlantic.

CHAIRMAN BALLOU: Dave Blazer.

MR. BLAZER: I'm speaking in favor of Option B for a couple different points, one that I think we're in a pretty good place right now as far as the fishery is concerned. As has been referenced, we've got an expanding stock. The stable harvest over the last couple years, and we're still leaving about 40 percent of the unfished spawning potential in the water right now.

To me Option B seems to be working. I don't want to change that approach. Option E, although as mentioned, I think everybody here is very favorable of ecological reference points; setting those guardrails of the target and threshold with Option E from 147,000 metric tons to a threshold of 744,000 metric tons.



Those guardrails are way too wide compared to what you've got with Option B, of only going to like a 314,000 metric ton option. To me I'm in favor of Option B. I would also like to say this discussion today just puts more emphasis on the importance of the work of the BERP Group, and I wish them all good luck and Godspeed to you.

CHAIRMAN BALLOU: Mike Millard.

MR. MIKE MILLARD: The Fish and Wildlife Service support the substitute motion; and we do so taking very seriously the first phrase about continuing to move towards ecosystem reference points. The Service is a strong supporter of that and as has been mentioned around the table several times, we really hope the Board is committed to keeping that train on track.

Second point and I hope I'm not misquoting you; Jason was I think I heard Jason say, and again this has been brought up. Option E has the potential to allow complete removal of the spawning stock biomass. That is fairly one of the more alarming statements I think I've heard around this table, and it strikes me as a rule of thumb which is probably not mature yet and ready to be put to use.

CHAIRMAN BALLOU: Emerson Hasbrouck.

MR. HASBROUCK: I support the substitute motion, Option B, and my comments are science based, based on the science that we have before us today. One item is that we heard earlier that the Technical Committee recommends that the BERP Working Group has always advocated for keeping single species until the menhaden-specific reference points are available.

Also, if we went from Option B to Option E, we would be going from a very conservative management approach for menhaden to a very high risk approach for menhaden, where the guidance from the Technical Committee shows

us that there is an 88 percent risk of exceeding the target, even at the current TAC under Option E.

Then thirdly, again in the Technical Committee memo, it states that the level of fishing pressure that reduces total biomass to 40 percent B-0 is higher than almost anything seen in the history of the fishery and results in almost total loss of spawning adults. Those are my reasons for supporting the substitute motion.

CHAIRMAN BALLOU: Senator Maker, welcome to the Board, the floor is yours.

SENATOR JOYCE MAKER: Of course I'm in favor of Option B. Setting a quota over the target, or making false targets that are not managed will land the stock in trouble if recruitment declines.

CHAIRMAN BALLOU: Andy Shiels.

MR. ANDREW L. SHIELS: I would like to speak in support of the main motion, which is Option E, and the reason for that is this provides an opportunity for the Board to seriously commit to ecosystem management. We've heard a lot of discussion about we want to get there. We all agree we want to get there. We may get there in a year or two; we may get there in three years.

This is a more realistic approach to getting there sooner and not kicking the can any further down the road. In addition, as mentioned earlier by some other commenter's, Option E gives the opportunity for some flexibility in management since there is a range, and it buys some time to get the ecological reference points developed, while not losing any ground.

In addition to that the public support for this, I think I heard the word was unprecedented. The number of public comments in support for Option E, compared to all other options is unprecedented. That has to have some weight

up and down the coast, from folks that interact recreationally, commercially through headboats, through the procurement of bait, through people that just go fish off the dock and use menhaden for crabs.

All the letters and all the correspondence we've received in Pennsylvania has been very specific, and has supported Option E. That is the first time that's happened in my short tenure with this particular group. In addition to that I would like to tell a brief story; and somebody mentioned earlier about memory. I have a very good memory on certain things, of course. A memory that I have is from the late 1970s. When I look at the updated stock assessment, and look at the graphics for biomass and recruitment, I see that the population in the late 1970s is very similar to what it is now, with a big dip in the 1990s and early 2000s. I would like to paint a picture for you that is very etched in my own memory. Even though I might be from Pennsylvania, I grew up fishing in New Jersey every weekend at the Jersey Shore. I've mentioned this more than once in the past. It is early fall in late 1970s, and it's flat calm and there are wave after wave after wave of what we call bunker, not menhaden. Schools of bunker just outside the surf zone off of Ocean City, New Jersey, literally as far as your human eye can see.

There is nothing like the roar when those menhaden all come out of the water in a school the size of this square in front of us, at the same time, because there are predators under them. It is awe inspiring. What is also awe inspiring is the first time you ever see a whale. We never saw whale before, but there was a whale in the middle of the pack of one of these schools of bunker.

They came out of the water; the whale came out of the water. We had bluefish and weakfish and sharks. We were pounding the bluefish and weakfish, it was epic. It's one of the best days we've ever had. While we're in the midst of

this late in the afternoon, here come some airplanes, zipping along just above the water.

My Dad says, "Those are bunker planes." What's a bunker plane? "Those are bunker planes, they spot the fish, and the nets will show up after." We get up early the next morning, because we had such an epic day and evening the night before. We're ready to roll, and what do we see when we get there? I don't remember what the rules were off the Jersey coast back then.

I thought you weren't supposed to net within two miles of shore. But the boats were there, the bunker was gone, the predators were gone. That image sticks in my mind through this entire discussion; and that's the lens that I see this through, because I can picture what an abundance of bunker can do.

From the reports I've seen on the internet, what I've heard from people who have testified up and down the coast in these last two or three years. They're seeing the same thing that I saw once in my life, and they're seeing it throughout the range. For that reason I support the first motion and Option E; because I can picture what this can become. Thank you very much for my time.

CHAIRMAN BALLOU: (Audience Applause) Thank you, thank you. We need to continue on, thank you. Doug Brady.

MR. W. DOUGLAS BRADY: I'm just trying to get my arms around Option E. I mean I think we are all for moving toward ecological reference points. I don't think there is anybody on the Commission that wants to slow that down or is not in favor of getting to that as quickly as possible. Now, maybe I'm wrong.

But I'm having a hard time, unless with Option E saying we want to support Option E, but we don't want to pay attention to the 75 percent Target or the 40 percent Threshold issues that drive what that will be. We want to feel good

that we are adopting BERPS, but we're saying we're going to throw the rest of it out.

We're not going to reduce the TAC. Maybe there are people; I think we just need to be frank. If you adopt Option E, you may support dropping the TAC to 143,000, I'm not sure. I think we need to say that if that is why we're wanting to support Option E. If not, we're just saying we're going to adopt Option E, because we feel good about getting quicker to saying we're adopting ecological reference points, although they are not menhaden specific. But we're not going to pay any attention to what Option E says. I mean I just don't understand where we're going with that one. You know we talk about where we are in the menhaden abundance. I think everybody agrees that the stocks are in great shape.

They've been managed with a stock-specific reference point; and they are in good shape. Can they be in better shape with the BERP, with the ecological reference points that we'll get to three years, or hope two to three years down the road? Of course, and I think everybody supports that. But I just cannot support moving to an option that says, this is what the option says we're going to do from a Target and Threshold perspective, but we're not going to pay any attention to that. For that reason I support Option B.

CHAIRMAN BALLOU: Are there other members of the Board who have not yet spoken; who wish to speak on this issue? Yes, Marty Gary.

MR. MARTY GARY: I would like to speak in support of the substitute motion. For our jurisdiction and our 20 pound net fishermen, the current status quo allows us with our quota and the bycatch allowance to get through the season to provide bait for our crabbers, to provide bait for our charterboat fishermen.

By going to the alternative for E, it would be counter intuitive to not manage to the target; so I'm assuming that we're going to do that and

by doing that that would upset the fragility of our fishery, and risk the season for our pound net fishermen. I cannot support the original motion, and I would support the substitute motion.

CHAIRMAN BALLOU: Again, before I go to any members of the Board who wish to speak a second and final time, I'll ask is there anyone on the Board who has not yet spoken who wishes to speak? Seeing no hands; I'll go to Robert Boyles.

MR. BOYLES: If I may quote the author, Oliver Wendell Holmes, who said "I find the great thing in this world is not so much where we stand as in what direction we are moving." I too appreciate the vibrant and robust public comment and public engagement that we have seen from our constituents, who have come here today.

On behalf of the Board, thank you everyone who has commented, everyone who has come here today. I find myself in the position, I support both motions. I think Doug Brady said it rather well. We've committed to moving to ecosystem reference points, and that is something that I think we should not lose sight of.

That train is on the tracks. It is my great hope that in fact in two years that we will see that submitted for peer review, and then we will update menhaden management accordingly. Given that we are now with the substitute motion, I will support the substitute motion. I think it's important that we recognize, I have a very, very difficult time in trying to share with you all the illusion of my son; frantic, pacing around the woods last night, having missed his target.

I just think it is very, very important that we be honest with one another. I think it's important that we be honest with our constituents, and I think it's important that we be honest with the 160 some odd thousand people who weighed in

on this discussion. I want us to do ecosystem reference points. I don't think there is any argument about that around the table. But I think this is important that we do this; that we do this right. We had a very important meeting that came out of a recent noncompliance finding.

I think now more than ever, it is important for us to be intellectually honest with our constituents, intellectually honest with each other, and do the right thing. I support both motions. The question before us will be the substitute motion, so I will support that.

CHAIRMAN BALLOU: Are there any other comments before I call the question? Dennis Abbott.

MR. ABBOTT: I was just going to say, I think everybody probably has their mind up. It might be time to take a vote, and I would like to request a roll call vote.

CHAIRMAN BALLOU: We'll caucus for one minute, and then we'll vote and it will be a roll call vote. All right I'm going to call the vote. I'm going to ask Megan to go down moving north to south. Megan.

MS. WARE: All right, Maine.

MR. KELIHER: Yes.

MS. WARE: New Hampshire.

MR. ABBOTT: No.

MS. WARE: Massachusetts.

MS MESERVE: No.

MS. WARE: Rhode Island.

MR. BORDEN: No.

MS. WARE: Connecticut.

MS. COLLEEN GIANNINI: No.

MS. WARE: New York.

MR. GILMORE: Yes.

MS. WARE: New Jersey.

MR. ALLEN: Yes.

MS. WARE: Pennsylvania.

MR. SHIELS: No.

MS. WARE: Delaware.

MR. CLARK: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: PRFC

MR. GARY: Yes.

MS. WARE: Virginia.

MR. O'REILLY: Yes.

MS. WARE: North Carolina.

MR. BUSH: Yes.

MS. WARE: South Carolina.

MR. BOYLES: Yes.

MS. WARE: Georgia.

A.G. "SPUD" WOODWARD: Yes.

MS. WARE: Florida.

MR. JIM ESTES: Yes.

MS. WARE: NOAA Fisheries.

MR. PETER BURNS: Yes.

MS. WARE: U.S. Fish and Wildlife.

MR. MILLARD: Yes.

CHAIRMAN BALLOU: **The motion to substitute passes 13 to 5; it now becomes the main motion.** Is there any additional discussion on what is now the main motion? If not, is the Board ready to vote on this as now the main motion? Allison Colden.

DR. COLDEN: I just wanted to add one quick observation relative to the stock assessment update under the current single-species reference points; and that is we're not currently meeting the fecundity target for the stock under the single-species reference points. I hope all the comments that have been made that were relative to the previous motion in Option E, in terms of managing to a target will remain true when we move forward with this as the main motion.

CHAIRMAN BALLOU: Robert Boyles.

MR. BOYLES: I would like to motion to amend, please.

CHAIRMAN BALLOU: Go ahead.

MR. BOYLES: **Mr. Chairman, I would like to amend the motion to tie this to TAC specifications for the next two years; that the TAC specification would remain at 200,000 metric tons.** (Audience Applause)

CHAIRMAN BALLOU: Moved by Robert Boyles, seconded by John McMurray to amend the motion to add that the total allowable catch for the menhaden fishery shall be established over a two-year period at 200,000 metric tons. Do I understand your motion correctly?

MR. BOYLES: Yes, sir.

CHAIRMAN BALLOU: Discussion on the motion to amend. We are obviously now moving into the TAC issue sooner than I had anticipated; but it certainly is in order to do so, if the Board feels comfortable doing so. If not, we can suspend and take up TAC separately. Really by your vote on this, you would be dispensing with the issue of specifications for the fishery and there would be no returning to this tomorrow. I'll just pause for a second and again ask if there is anyone who wishes to comment on this motion to amend. Jim Gilmore.

MR. GILMORE: I apologize, but could you remind me of the modifications to the agenda in terms of the sequence we're going to be doing this.

CHAIRMAN BALLOU: We are in sequence now in that I had asked, well it's arguable. We're in a gray area right now, I'll say that. I had urged that the Board deal first with reference points; then with the rest of the issues, including TAC, including allocation. This does change that dynamic, but it's the will of the Board as to how you would like to proceed. Thank you for reminding me that this is not exactly the way that I had urged we go forward; but I think it's close enough, in terms of the way the agenda has been laid out that it's in order. Rob O'Reilly. MR. O'REILLY: I'm not sure I would call this a point of order, but when we went to the agenda earlier the request was made to take the ecological reference points or the biological reference point issues first, and then subsequently look at the TAC specification, and then after that look at allocation.

Again, I can understand that while yes the TAC is coming second here. But I had envisioned that we would also have a situation where we were able to debate at the TAC independently of the ecological reference points or biological reference points. This greatly bears on the third step, which is the allocation. It has obviously implications.

We've heard at least one comment that we're underachieving on the quota that we have on the total catch, in that we're not keeping up with what the assessment says the capabilities could be for a quota. Certainly, 200,000 metric tons would be underachieving. I was hoping we would have that discussion as well. Again, a little different than what was expected.

CHAIRMAN BALLOU: I thank you for that and I think it's clear that given the nature of this amendment, it speaks to both process and substance. It speaks to the Board's willingness to take on a shift in order, which Rob just spoke to, as well as the substantive issue of what the TAC should be.

If this were to be approved, as I said earlier, and then of course it becomes the main motion. It would have to be voted on again. But it would dispense of the specification setting discussion. If it were to be not approved, we would be back to the main motion solely on the issue of reference points, and we would then take up TAC separately. I think that really is the two-part aspect of the motion to amend that is up on the board. I saw some hands up. Dennis Abbott, you were one.

MR. ABBOTT: Though I don't disagree with a quota of 200,000 pounds as it probably affects my little state. I see us if we pass this, well back up a little. I think there was an expectation when we arrived here that we were probably going to try to do what we could to make the states a bit more whole.

We were going to try to do something to help the state of New York with an increased quota, and I know Maine wants quota. Adopting this and then getting into tomorrow's discussion about who's going to get the numbers when we've talked about allocations. No one will accuse me of being a friend of Omega Protein, particularly I'm only a friend of equity, because it's my strong belief that when we advantage someone we're going to disadvantage someone else.

By adopting a quota of 200,000 pounds and then getting into tomorrow's discussion. There may be a lot of people who end up feeling very disadvantaged. I'm concerned about where 200,000 gets us; because it really is going to put us in an adversarial mode tomorrow when we're trying to give some of the states what they surely deserve. One of the outcomes of this should be some sort of equity.

I liken this to the fact on the one hand that one state has been getting a very high proportion of the catch, and things have changed. It's like the geese are migrating down to the Chesapeake Bay area for years and the good hunters like Robert Boyles is shooting them all down there. Now, those geese are landing in New Hampshire on the one hand, and we can't shoot anything because we've never had any quota. What my point is, I think if we vote this in we're really setting ourselves up for some battles tomorrow.

CHAIRMAN BALLOU: Are there any other comments on the motion to amend? David Bush.

MR. BUSH: I know I'm sitting precariously close to the maker of the motion. However, I might remind him of the story I heard recently about setting a target. This seems to achieve just that. We've set a target and then we've sort of disregarded that target and decided something else.

CHAIRMAN BALLOU: Any other comments before I call the question? *This is on the motion to amend, and I'll read it into the record. **To amend to add to set the TAC at 200,000 metric tons for the next two years (2018-2019), 30*** second caucus and then we'll vote on the motion to amend.

MR. ABBOTT: Request for a roll call.

CHAIRMAN BALLOU: We'll have that roll call vote.

MS. WARE: NOAA Fisheries.

MS. WARE: Connecticut.

MR. BURNS: No.

MS. GIANNINI: Yes.

MS. WARE: Florida.

MS. WARE: Rhode Island.

MR. ESTES: No.

MR. REID: Yes.

MS. WARE: Georgia.

MS. WARE: Massachusetts.

MR. WOODWARD: Yes.

MS. MESERVE: No.

MS. WARE: South Carolina.

MS. WARE: New Hampshire.

MR. BOYLES: Yes.

MR. ABBOTT: No.

MS. WARE: North Carolina.

MS. WARE: Maine.

DR. DUVAL: No.

MR. KELIHER: No.

MS. WARE: Virginia.

CHAIRMAN BALLOU: **The motion fails 5 to 13. We're back to the main motion.** Is there any further discussion on the main motion? Seeing none; is the Board ready to vote on the main motion? Is there a need to caucus? Seeing no need; is there a need for a roll call vote? Seeing no need; all in favor of the main motion please raise your hand.

MR. O'REILLY: No.

MS. WARE: Potomac River Fisheries Commission.

MR. GARY: No.

Keep your hands up, please. Hands down, thank you. Those opposed please raise your hand. Are there any null votes? Are there any abstentions? **The motion passes 16 to 2; with no abstentions and no null votes.** I take this to mean that we have completed our work on reference points, and given the time we now have to decide whether we want to forge ahead.

MS. WARE: Maryland.

MR. BLAZER: No.

MS. WARE: Delaware.

MR. CLARK: No.

MS. WARE: Pennsylvania.

MR. SHIELS: Yes.

We do have time left in the agenda, so it seems like the appropriate thing to do. Let me just confer with Megan for a second, just to make sure I'm clear on what would be the next step. All right, so here is what we're going to do. Given the way I had suggested the agenda should go, we are now essentially at specification setting.

MS. WARE: New Jersey.

MR. ALLEN: No.

MS. WARE: New York.

MR. GILMORE: No.

By the way that was pursuant to the Board's agreement to modify the agenda; to now do specification setting. To launch that part of our meeting, Jason McNamee I believe has a presentation and we'll ask Jason to provide that. Then we'll have time for questions afterwards. We'll be at ease for five minutes while Jason gets ready.

Please don't leave the room or go anywhere. We're just going to be at ease for five minutes.

**SET 2018 (EITHER SINGLE OR MULTI-YEAR)  
ATLANTIC MENHADEN SPECIFICATIONS**

CHAIRMAN BALLOU: Okay, the next item on our agenda, given the change made to the agenda is to Set 2018, either single year or multiyear Atlantic menhaden specifications. To begin that part of the agenda Jason McNamee, Chair of the Technical Committee has a presentation. Jason.

MR. McNAMEE: Not that I wasn't paying rapt attention to the discussions that were going on, but I slimmed this down from the original version, so it should be pretty quick. It is something that you all have seen a couple times already; because we are now back to the original reference points. I thought I would start off just refreshing folks on current stock status.

Here is a look at current stock status with the single-species reference points with regard to fishing mortality. You can see we are under both the target and the threshold. This is based on the update assessment from 2017. This is what is the fecundity reference points. You can see we are above the threshold but below the target; though closer to the target than the threshold.

A couple of slides on the methodology, again I've said this to you guys probably about a dozen times over the past year and a half. I'm going to go pretty quick through these. But the way that we run the projections is we have a

Monte Carlo bootstrap run from our base assessment. This one of course is based on the 2017 update.

That is the basis for the projections. The original standard projections were run under the Board requested scenarios for four years since the terminal year; so that's 2017 through 2020. The starting conditions include initial numbers at age, which were estimated numbers at age for year 2017 from the update assessment for each of the Monte Carlo bootstrap runs.

It kind of goes in and it grabs one of these different runs, and that's how we are getting the uncertainty around those estimates. Just to put a fancy equation up on the board, here is what the numbers at age look like, and the main takeaway here, we should have showed this slide to the gentleman we were talking to on the break.

You can see you've got your numbers at age, and that decays based on Z, which is total mortality, and so that is both fishing mortality and natural mortality. That is how those age classes progress from year to year. Natural mortality for each of the projections was a vector, again from each of the Monte Carlo bootstrap runs.

Selectivity also a vector also has uncertainty around it, and those are selected for each of the fisheries northern and southern fisheries. Those are from the last time period; so some may recall that we have a set of blocks within the model that we estimate separate selectivities for, and they're based on changes to the fishery.

For instance, the reduction plants up and down the coast going out of business or closing up shop, and so that's all in the assessment document. But just so you know, we are grabbing the selectivity from the most current period of time. Fishing mortality is estimated to



match the annual landings for the constant total allowable catch projections.

The annual landings are calculated using the Baranov Catch Equation and the weight of those landings; so we convert everything into weight. The recruitment is projected without an underlying stock recruitment function. It's based on the median recruitment observed for each of the runs. Then variability is included as a deviation from that median; and it's selected randomly with replacement from each of those Monte Carlo bootstrap runs. The outputs that we get include fecundity, fishing mortality recruitment, and landings. You can ignore those sub bullets now.

Fecundity is the number of fish in each age times the reproductive vector at age; and so we have information on the level of maturity for each age class of menhaden, and that's how we're deriving our spawning stock biomass and then applying an equation that gives us the number of eggs each of those can produce.

Specifically, maturity from the final year of each of the runs, we assume a 50/50 sex ratio and a mean fecundity at age were used to produce the reproductive vector at age. Back into the caveats, I gave you these already today so I'll go really quickly. There is no structural or model uncertainty considered.

All of this information is conditional on a set of functional forms. The fisheries were assumed to continue at their current proportions of allocation; and so the bait and reduction fisheries are assumed to continue proportionately like they are now. If future recruitment is characterized by runs of large or small year classes, this would impact the information coming out of these projections.

Again, the projections apply the Baranov Catch Equation, which assumes mortality is occurring throughout the year, and so changes to that assumption by way of seasonal closures and things like that would affect a performance of

the projections. These are the projections that we have run. These were tasked to us by the Board.

You asked us for six versions of increasing the TAC, and so what you see in this table is what the current TAC is, 200,000 metric tons, and then you asked for a series of increases to that TAC from 5 percent, 10, 20, 30, and 40. What you see to the right are the TACs associated with those increases from that 200,000 metric tons.

Then what you see in this chart is the risk of exceeding the target. You can see there is a certain level of risk of exceeding the target for each of these variations on what you wanted to see. They increase as you increase the TAC, not shockingly; that risk decreases as you go forward in time, and that's because that recruitment is coming in underneath to bring that population size back up.

Here is the same structure as the last table, but in this case what you're looking at is the risk of exceeding the F threshold. Here you can see there is virtually no risk of exceeding the threshold for the first three runs that you wanted to consider; and then very small risk for the remaining three. You also asked for a set of projections that were based on risk; and that is risk of exceeding the F target.

The first one you asked for was a 50 percent probability of being below the F target in 2018, and then a 55 percent and then a 60 percent. What you see to the right of the descriptions are the TACs associated with those varying degrees of risk. The risk is decreasing as you go down the rows. Just a quick slide or two on the graphs, and this is not necessarily, well this one is. What you're looking at, we wanted to explain again what we're trying to indicate to you is the uncertainty that we're estimating with all of these different metrics. The first two arrows that you see up there are the 75th and 25th, I'm sorry the 95th and 5th quantiles. In this case we're looking at the recruitment. If

Max should click one more time that is the 75th and 25th quantiles, and then a final click gets you to the median. In our normal context that median is the answer, like that is the point estimate that we're usually looking at.

But it's important to note that it is actually not a point estimate. There is uncertainty around that middle zone. If you now go to the next slide, what I wanted to show you here was there were a lot of questions about our new memo with the ERPs and what you are looking at. I think it's still worthwhile in case we revisit this in the future.

Max, if you click that is the fishing mortality rate plot from the previous set of plots I was just showing you. What you are looking at in the newer memos was a cross-section from a single year, and so that red line is kind of a slice through 2018. Then as you click again, Max, here are the new plots, what they look like.

You can probably click I think three more times, four more times. These line up with what were horizontal lines on the old plots, are now vertical lines, but they match. I just wanted to give you a sense of that and it will allow you to interpret that information a little bit better. But that's it. I'm not going to tick through all of those plots. With that I will stop and answer any questions.

CHAIRMAN BALLOU: Excellent presentation as always. Questions for Jason on the presentation, yes Allison Colden.

DR. COLDEN: Hopefully this gets back to some of the process questions, but I just wanted to have a clarification. Jason, you said that these projections can change with any changes in assumptions about the fisheries or the allocation among sectors. Can you provide some sort of insights on what parts of the model would you expect to change, or how you would expect the projections to change, considering several of the allocation options, which we will be taking up after this would

presumably set different proportions in terms of the fisheries and the various sectors?

MR. McNAMEE: It's a good question and thank you for paying attention to our caveats. We're often not sure if people are actually listening to those. I think to illustrate the example; I think your question was directly relating to how the fishery might change. A lot of it stems from the selectivity that we have in those assumptions; and remember that those are static.

They have uncertainty around them but they're a static functional form that we're using for each of the projection years. If the fishery were to shift into one of the fleets where if you had a fleet that had a let's say logistic flat-top selectivity, and the amount of harvest that was occurring in that fleet were to increase that would change a lot of the information that goes forward now into the subsequent years of that projection.

In other words, that protection that would be offered by a dome-shaped selectivity function for those older year classes wouldn't be there anymore, they would all be, if that assumption is correct, those fish would be equally harvested by the fishery at that equal selectivity rate. That's what we're talking about there. Those are things that kind of impact, and if that were to occur that would reduce whichever fleet you're talking about, it could reduce the number of adults and then that would feed back into the projections as less adults, and that would bring fecundity down as an example.

DR. COLDEN: Is it fair to say that moving into this discussion there is an additional level of uncertainty associated with these projections; because of the opportunity to change the allocations after the TAC is specified?

MR. McNAMEE: Yes that is exactly the point we are trying to get across for a couple of reasons. It impacts the performance of the projections, and so when we come back in year 3 and stock status is different than what we anticipated per

the projections, this would be one of the reasons why that can happen.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: My question is, Jay I think you did the risk analysis back for the February, 2015 meeting. I think that may have been the initial time that you did the 5, 10, all the way up to 40 percent. Has very much changed in the interim time period, in terms of the risk? You may not have that with you, but I mean just sort of qualitatively?

MR. McNAMEE: I can answer that very specifically, and that is what you're looking at up there is exactly the same thing that you were looking at back then. That hasn't changed.

CHAIRMAN BALLOU: But just to clarify, Rob. I think you said 2015. There was a memo underlying these projections based on the stock assessment update, and that memo was provided to the Board and reviewed at our August meeting. I don't think anything has changed from that memo, but I think things have changed since the prior 2015 memo and associated projections. Go ahead.

MR. O'REILLY: That was my question, and I know Jay didn't bring everything with him, but that was the first time I think we saw the risk.

MR. McNAMEE: Yes, so sorry about that Rob. I didn't mean to misinterpret, I thought you were asking about the existing projections based on the update. Yes, I do not have that. I mean I could, not right now on the spot, if there is a chance to chat afterwards I can look that up quickly, and I can let you know. I mean there was a big shift in our understanding of the population based on that update assessment, and we talked about that a little bit earlier.

CHAIRMAN BALLOU: Go ahead, Rob.

MR. O'REILLY: Here is where I get in a little trouble with this next question, because I think

I've asked it before and it's not an easy one to ask, but your portraying risk. But does risk occur on either side of that type of a projection? In other words, when you say 240,000 metric tons has a 2.5 percent risk to exceed the target. Not to call confidence intervals, but is there anything else besides that sort of finite line of risk? How does that work?

MR. McNAMEE: I think I understand your question. All of the proportions that we're talking about, with regard to risk, are from a symmetrical distribution. I think you said 2.5 percent, let's make the math easy. If it was a 2 percent risk of exceeding some target there would be, if there was a 2 percent risk of exceeding it that would mean there is a 98 percent risk of probability of not exceeding it.

CHAIRMAN BALLOU: Emerson Hasbrouck:

MR. HASBROUCK: Just to follow here; Jason, thank you for your presentation. I'm wondering in the memo that we're referencing here, in terms of the risk. Is that the June 30 memo from the Technical Committee, does anybody know?

CHAIRMAN BALLOU: That's correct, Emerson, and unfortunately it's not in the meeting materials for this meeting. It was in the meeting materials for our August meeting. Additional questions for Jason? Seeing none; what I would like to do now is offer the public an opportunity to comment on the issue of specification.

This was not an Amendment 3 issues per say, as such it was not subject to public review and comment during our recent comment period. I think this would be an appropriate time to offer the opportunity for anyone that's here today from the public who wishes to comment on the issue of specifications to do so.

By a show of hands, is there anyone who would like to do that? I see at least three. Could you please come up? The microphone is up in the

corner here, the public microphone, and I'm pointing to it. I don't know if you can see where I'm pointing; if you could just come up, and actually it would help if you sort of lined up.

Maybe those waiting could be on the side over here, and as each speaker is done the next person could slide right in. I would appreciate it if you could limit your comments to a minute or two, just given the number of people who apparently would like to comment. Please introduce yourself first. Welcome. You'll need to press the button.

DR. PAUL SPITZER: Okay, well somebody has got to go first, I guess. My name is Paul Spitzer; I'm an independent scientist. I live over on the eastern shore of Maryland on the Choptank River. Over the last 50 years I've studied the biology of ospreys, which in many areas from Virginia up to southern New England have a heavy dependence on menhaden.

The last 30 years I've studied the migration and winter biology of loons, which from the Carolinas up to Chesapeake Bay also take a lot of menhaden, running heavily to peanuts. My particular question today actually is mostly addressed to Lund Fisheries, because Lund has initiated a winter trawling harvest of fish off New Jersey, and the way this relates to the model is the question of R, and how R might vary, how management strategies might vary over the course of the year.

As I learn my menhaden biology down in Beaufort when I was a visiting scientist there, although reproduction occurs throughout the year, it's concentrated heavily in the winter season, and also the recent papers Buchheister and Miller suggest that these northern populations which are showing recovery now, may be self-generated.

Therefore, I'm suggesting there may be a possibility of risk in winter trawling off of New Jersey by Lund and any other agents. Again, the issue of what the R might be specific to the time

of year of harvest and then the larger question that this is not quite as much a uniform, broad Atlantic population as the book might have suggested it is that the emerging data on that suggests that it's more complicated than that. Thank you.

CHAIRMAN BALLOU: Thank you. The next speaker is welcome to now take the microphone. Welcome, and please introduce yourself.

MR. KEN PINKERT: Good afternoon, Mr. Chair. My name is Ken Pinkert, and I've been traveling this Atlantic Coast for the last 33 years on a menhaden boat with Omega Protein. I also serve as Vice President of United Food and Commercial Workers Union Local 400 out of Landover, Maryland; representing myself and coworkers on these vessels.

My concern, I fully supported Option B, and my concern is that it does give the science that's necessary and it's good science, it seems. But we haven't gotten back the 20 percent we were cut three years ago, four years ago maybe. We were actually cut 20 percent. What we have to think about with bunkers, as we call them, and others around the table call them.

We are paid by how many bunkers we catch. Either way, any decision that is made by this Commission is made by the Council at actual dollars in my membership's packets and in our family's livelihoods. I would like for you all to be conscious of that as you make decisions, either way that you make them.

Normally I would have yellow shirts, I'll have you all know, a couple of busloads of them, but they are actually out there fishing. This is the first year in my 33 years on the Atlantic coast that we've had four named storms in less than three weeks-time, two named storms in one week on the Atlantic coast. That affects us as a resource. That's one of the other variables that we have to consider when we take jobs on these vessels that are dangerous jobs. Just be

mindful of that as you make your decision today, and I appreciate your support.

CHAIRMAN BALLOU: Thank you; next.

MR. JEFF REICHLE: My name is Jeff Reichle; I'm the Chairman of Lund's Fisheries in Cape May, New Jersey, and I would like to first address the statement made by one of the previous speakers, and just let him know that even though, first of all it's not our boat. The boat's owner-operated vessel are trawls in the wintertime, been fishing with us for generations. The quota in New Jersey is strictly limited for trawl. I think it's less than 5 percent of the New Jersey quota is allowed to be trawled.

That 5 percent is shared with other fisheries as well, so it's very, very limited. First of all I would like to thank this group for voting for Option B; I think that's the best way to go forward at this moment, until we get a little further down the road move to act something like Option E. I would hope that we would pick one of the, at least middle to higher ranges of options that were put up before you here not too long ago. I would like to remind the Board that in 2012 or 2013, New Jersey took a 60 percent cut in our quota.

Our boats and the people that work on those boats, and the people that work in our plant went from starting work in April and finishing in October, to starting work in April and finishing before the end of July. The economic impact on our company and the people that work for us was pretty huge. If we managed the resource well, which it certainly looks like we have, we should get an increased quota. Thank you.

MR. THOMAS LILLY: Ladies and Gentlemen of the Commission, I'm Thomas Lilly; I live in White Haven, Maryland, and I would like to speak to you and recommend that if you do make a change in the TAC that you be conservative. Any change in the increase in the TAC, as you

well know, will be felt by us in Maryland, more than any other state.

We are the state that is on the receiving end of the loss of menhaden. We have a terrible menhaden deficiency in the Maryland Bay. I'm an old guy. Twenty years ago I can remember going out on the Bay and seeing those beautiful schools of adult menhaden that may have stretched, you know three-quarters of a mile.

Now, you won't find menhaden schools in the Bay. Recent fishing has shown us that our rockfish, it's a 20 inch limit right now, and nine out of ten of them have empty stomachs. They are fighting like crazy to find something to eat out in our Maryland Bay. The same thing is true of our ospreys.

This Commission is not studying the effect on the Maryland Bay of what the factory fishing people are doing. We don't know how many of those schools, and keep in mind that Omega takes thousands, thousands of those schools of adult menhaden in their purse nets, not hundreds but thousands. We don't know if any of those schools are making it into Maryland.

There is no evidence that they are. We don't know whether Omega is taking 50 percent of the fish that should be coming into Maryland, 80 percent, 90 percent, it's not being studied. It should be studied. People in the Maryland Bay, millions of people, a lot of saltwater fishermen, and our communities are suffering. You know I can just leave you with this thought. We want our menhaden back. Thank you.

MR. STEVE WEINER: My name is Steve Weiner; I am the Chairman of CHOIR, which is a coalition that is focused pretty much on herring in Gulf of Maine, Georges Bank, New England, founding member of East Coast Tuna, founding member of Atlantic Bluefin Tuna Association. I've been harpooning tuna fish for longer than I want to remember.

I would advocate, had I been able to speak on the reference points, I would have advocated

for E. I think what I heard was, I guess what I heard, and well that's a dangerous option because it's got such a wide range between the targets. In other words it could be a high number; it could be a low number.

I advocate for it to stay at 200,000 as a Mainer. Seeing menhaden when I was a kid and periodically during my life, there are more of them there now than there has been in a long time. It's probably got as much to do, I guess with Mother Nature and environmental situations, as it does good management. But it seems awful coincidental that as you took a reduction in catch, that we've got more fish north. I think this group has to look at the spatial concerns of all the members.

Having menhaden ranging pretty much from the backside of the Cape all the way to downeast Maine, and my guess is if we manage them properly in the future they're going to range even further east. You have an obligation to all of us in New England, in northern New England to keep this quota at a safe place and I hope you do it. I was disappointed at the last discussion that none of us had an opportunity to say something about reference points. This discussion today kind of changed what was going on; and I think it changed the situation so some of us in the public should have been able to speak to it.

I really think it felt like a pretty hypocritical discussion when E was shot down; that somehow it was the more dangerous option. No way was it the most dangerous option. This group of people has the ability to set the quota, whether it was B or whether it's E. It could have just as easily been E with the responsible.

CHAIRMAN BALLOU: Sir, we're on specifications now. We've already dealt with reference points.

MR. WEINER: Okay, I hope you keep it at 200,000. Thank you.

CHAIRMAN BALLOU: Next.

MR. RICHARD HITTINGER: My name is Rich Hittinger; I'm with the Rhode Island Salt Water Angler's Association, and I just want to point out that in Rhode Island, well we represent 4,500 recreational anglers. Our members understand how important menhaden is to those fisheries that we're involved with.

We have members who spend a lot of money fishing for striped bass, fishing for bluefish, fishing for bluefin tuna. Those members are very concerned about the health of menhaden stocks. We've been fighting the menhaden issue for about 20 years in Narragansett Bay. Our members, when they see a commercial purse seine boat in Narragansett Bay, they call us.

They are saying, why are they allowed to take so many fish, when all we want to do is leave fish as forage for those fish that we spend our lifetime pursuing? They get very angry about this. Now, we're trying to leave as many fish in the water as possible. We were very much in favor of ecological reference points.

We understand that they may be coming in two, four, six, eight years from now; depending upon on how everything goes with peer review, with putting together a management structure. But for now, the best science on ecological reference points recommends 75 percent to remain in the ecosystem. The only number that the Technical Committee gave you regarding achieving that goal, is achieving that goal in one year, 2018.

Now that was 147,000 metric tons. Anything that is a harvest level above 147,000 metric tons goes against what is the best ecological data right now from the scientist. We would have been in favor of 200,000 with ecological reference points. At this point I don't think you're going to be able to pass anything below 200,000, but you should.

I think you need to keep it at 200,000 metric tons at a maximum; because what's going to happen is as soon as those boats come in to harvest in Narragansett Bay, the recreational fishermen are going to be calling our office by the hundreds, and actually they're going to be calling Jason McNamee's office too, so he'll get some of those calls.

I urge you to be conservative with this species. I think you already understand, and that's how you've been managing. You've been managing at roughly half of the target F value to date. You know you could have set a much higher harvest level based on single-species management, but I urge you to stay at 200,000. CHAIRMAN BALLOU: I'll take three more. I see three folks standing, so we'll take those last three comments. Welcome, sir.

MR. ROBERT T. BROWN: Robert T. Brown; President of Maryland Watermen's Association. Throughout my travels across the Chesapeake Bay Bridge over the past several months, have been some calm evenings when I've been going across it; the amount of menhaden that you see school after school on top of the water. I don't know where these people are coming from saying that they don't see menhaden in the Chesapeake Bay.

What we have is fish have changed their migration patterns some in the river, because of the amount of rockfish that we have there. I am a pound netter, I fish on the Potomac River. The rockfish that we're catching and selling are top quality. They've had plenty to eat. Also, these fish, what they have done to me on the Potomac with the amount of rockfish that we have.

I've had to move my nets in different areas, to try to get where I wasn't catching as many rock, so I could catch the menhaden for my crabbers. In Maryland, our quota gets caught probably about August of most years, and we need that bycatch to keep us fishing the rest of the season

to provide crab bait for our crabbers and lobstermen, it goes up north too.

Also we need it for our charterboats and our sports fishing industry. With the quota the way it is now, and the way it's divided up, we cannot remain fishing an entire season unless we have a bycatch, or incidental catch, however you want to talk about it. But we can see where we have plenty of menhaden, but they have just changed their practices. They're staying more out in the middle of the rivers and in the Bays. I urge you to see that you can keep us fishermen fishing the entire season. Thank you.

MR. SCOTT SNIDER: My name is Scott Snider; I'm from Charleston, I grew up fishing, big advocate right along the coast there, watched menhaden over time. Our smaller menhaden size of the schools, frequency of the schools, we've got a lot of menhaden down there. Schools seem to be a little bit fewer and further in between, but we can still find menhaden for sure, definitely still some menhaden there.

I'm listening to this panel mention repeatedly about they're dedicated to restoring the population to the 70 percent target number. I hear about the unprecedented amount of public feedback that we've gotten on this specific discussion, which from your words are talking about how much people care and how much people are passionate about this topic.

I just wanted to say, I really hope that we're not about to increase this quota and continuous skirting along right along at that threshold number, just 40 something percent or whatever that was, and not let this overflow happen and spillover effect happen, and boost in the numbers to get towards that 70 percent number, which was really a lot of the energy behind Option E. Let us really start building towards that number. I hope we're not about to drastically increase this quota. Thanks.

CHAIRMAN BALLOU: Thank you, last comment.

MR. PATRICK PAQUETTE: Patrick Paquette, I'm a recreational fishing advocate from Massachusetts, and I am a member of the AP; speaking on behalf of the Massachusetts Striped Bass Association. We had a discussion at our board meeting a couple of weeks ago, and we talked about what would happen if this is exactly the way this meeting played out.

I would urge the Board to put some teeth in the rationale, in the discussion of the decision that was just made. What I mean by that is that we just hinged a lot that a transition to ecosystem management to menhaden-specific ERPs was going to happen in 2019, or the discussion that those models will be in that action, so I'm assuming it goes in the water in 2020. I would say this.

To put some teeth in that decision, real teeth in that decision, to keep the commitment to the public what it is today would be two actions regarding the TAC. One would be that you set the TAC today, or tomorrow however this discussion plays out this afternoon; that you set that for two years and not a day more than two years.

The TAC should be set for the 2018 and 2019 season, because if we're really going to have a management action in the fall of 2019 that's going to effect on-the-water management in 2020. If the ERPs, if the menhaden-specific ERPs are out, then we only have to set the TAC for two years. The second thing is, if we're actually going to wait for models that aren't finished.

If we actually believe, and that's based on the decisions made today that that is the opinion that carried the day here today earlier. If that is actually true that we believe they're going to be peer reviews, that we believe the action is going to happen for 2019, then I would suggest that there is no reason for a significant raise in quota.

It's clear that people want a raise in the single-species quota based on that management, to go above 2012 without knowing what the cutting edge, menhaden-specific reference points are, would be irresponsible to industry, never mind to the general public or the recreational community, because industry should not be fooled into thinking there is going to be a higher TAC, when you've got menhaden-specific science coming.

After 20 years of a downtrend, it is absolutely the public's belief that the 2012 reduction is what kicked off the recent growth in menhaden. I understand that there is science that doesn't believe that. But menhaden-specific ERPs should give us some guidance on that to go to a high increase today is irresponsible to trick industry in thinking that a high increase, and that the markets that develop.

Today was a bad day for striped bass and a good day for Canadian owned pet food. That being said, please carry your commitment through, and if you're going to wait until 2019 to take specific cutting edge science, then it only makes sense that you be conservative until you know what that science says. If not, maybe somebody knows something else here.

If not, maybe ASMFC continues its absolutely horrible, horrible reputation of continued delay. But the commitment to me, looking here and being hurt and not liking the decisions that were made today is that if those decisions are really based on what was discussed around this table, it would be no more than a two-year TAC, and it would be a modest increase at best, not bigger than 2012, until the new science comes in, in two years. Thank you. (Audience Applause)

CHAIRMAN BALLOU: Thank you to everyone who commented. We very much appreciate your input. I need to gauge the interest of the Board, in terms of how you would like to proceed. It is 4:46; we had scheduled the



meeting such that we would recess today at 5:00. We're not bound by that. That's really just a forage fish guideline. But we should probably think carefully about whether we want to get into motions now, or whether we want to recess now and begin anew tomorrow morning; given the possibility that motions might involve just TAC, or potentially be bundled with other allocation methods.

I think there is interest in potentially all of the above. This could be a situation where we could start, and just simply end wherever we may be in 13 minutes, if that is how the Board wants to move forward, or we could end now. I say end, I mean recess now, or any other direction that the Board wishes to go. I am now seeking input from the Board as to how you would like to proceed. David.

MR. BUSH: I'm usually chomping at the bit to get things done, but as over the past year I've seen in quite a few of the different meetings. At the late hour weird things start to happen, so I would be very much I guess for possibly starting this in the morning when we can finish it with a much safer mindset than some of us who have traveled since 4:00 this morning might be able to offer you. Thank you.

CHAIRMAN BALLOU: That sounds like one vote to recess now. Dennis Abbott.

MR. ABBOTT: It's always been my belief that you don't make good decisions on empty stomachs, so maybe a motion to recess might be in order.

CHAIRMAN BALLOU: I don't think we need a motion; I'm looking for a consensus. Pat Keliher.

MR. KELIHER: I don't have, I actually have a bundled motion prepared that I'm not going to make right now; but prior to that I have a motion prepared that would set governance on specifications in regard to opting into fisheries, and would like to ask if you would consider that

type of a motion now, or if you would rather wait until tomorrow.

CHAIRMAN BALLOU: I think that really speaks to the overall issue that I'm looking for guidance on. That opens the can of worms, so to speak, on a range of potential motions on a range of potential issues. We can either start now or wait until tomorrow morning. Tom Fote.

MR. THOMAS P. FOTE: I agree, we basically make decisions bad after we're sitting around here for a long time; and a lot of us traveled long distance driving and you're tired right now. It would be nice to come with a fresh mind in the morning and think, oh we'll have some discussions over dinner tonight too.

CHAIRMAN BALLOU: Is there any objection to recessing now? Seeing none; I am going to make the call that this Board is in recess until 8:00 a.m. tomorrow morning. We're going to begin at 8:00 a.m. sharp. Enjoy your evening, thank you very much.

(Whereupon the meeting was adjourned at 5:00 o'clock p.m. on November 13, 2017)

**November 14, 2017  
TUESDAY SESSION**

The Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission reconvened in BWI Airport Marriot, Linthicum Heights, Maryland, Tuesday, November 14, 2017, and was called to order at 8:00 o'clock a.m. by Chairman Robert Ballou.

**CALL TO ORDER**

CHAIRMAN BALLOU: Good morning everyone, welcome back. I'm going to call this meeting of the Atlantic Menhaden Board back into session. This is a continuation of the meeting that began yesterday, and is slated to continue through a good portion of today. Just a quick sense as to how we plan to proceed today.

First, I just thought it might be helpful to provide a brief reset on the issues that remain before the Board for final decision that includes the specifications, and the allocation issues and other issues other than reference points that are in Amendment 3. Megan is going to quickly run through those, just to make it clear as to what the suite of issues and options are that are before the Board for final decision today.

I will then open the floor to questions. We really didn't get much into that yesterday, but any questions that any Board member may have for Megan on any of the remaining issues. I think we covered specifications well yesterday, so I think we're past that; in terms of questions, although I think Jason would be more than happy to answer any if there are questions on that.

But once we get through that which I don't anticipate should take much time, I'm going to open the floor to motions; and I'll just have a brief comment on that before I do so. But for right now I'm just going to give the floor to Megan for just a brief rundown of the issues that remain before the Board.

MS. WARE: Just a reminder, there are seven issues for the Board to decide today. The first is the total allowable catch, which is basically the size of the pie that we will be dividing, and then next would be quota allocation; so how we're going to divide that pie. The third is quota transfers; so how is quota move between the different jurisdictions.

The fourth is quota rollovers; can unused quota be rolled over to the next year. The fifth issue is incidental catch and small scale fisheries; so how do we deal with bycatch landings or landings after a directed quota has been met. Sixth is the episodic events set aside; so do we want to set aside quota for episodic events in New England, and how much? Then the seventh issue is the Chesapeake Bay Reduction Fishery Cap; so is there going to be a cap on the

reduction fishery in the Bay, and what is that cap going to be?

CHAIRMAN BALLOU: Thank you, Megan. Just for the Board's edification, all of those issues are laid out in full detail in the draft amendment, beginning at Page 46 and running through Page 72. That is the chunk of the document that we're essentially working through for the rest of today. Are there any questions for Megan on any of the issues pending before the Board?

CHAIRMAN BALLOU: Nichola Meserve.

MS. MESERVE: Megan, regarding quota transfers, Option B, the quota transfers permitted with accountability measures for overages. Would a transfer that occurs before quota closure occurs that would not factor into the trigger, right? The 5 percent overage is just for transfers that would occur after a state closes a fishery. Is that correct?

MS. WARE: Let me see if I am understanding your question. If a state exceeded its quota two years in a row, in that third year are you asking? No, okay.

MS. MESERVE: If a state received a transfer from another state prior to a quota closure that would not count as a transfer in excess of the 5 percent that would factor into the trigger.

MS. WARE: Correct. Yes. That is part of their now quota, and they would have to exceed that by 5 percent, yes.

CHAIRMAN BALLOU: Other questions. All right, it looks like we are ready to go. I would urge that it might make the most sense to deal initially with specifications and then take on the various allocation and other issues in the amendment. That said, I'm fully aware that there is interest in perhaps bundled motions.

Any member of this Board may make any motion that they wish to make, and it would be

in order, at least ostensibly. But I just wanted to offer that suggestion for what it's worth; it's just a suggestion to kind of try to keep things as straightforward as possible. But consider that for what it is, which is just a recommendation not a decree by any means. With that the floor is open for motions on any of the issues left pending before the Board. Pat Keliher.

MR. KELIHER: Staff has a motion regarding an opt-in provision that I would like the Board to consider. If you could pull it up, if I get a second I'll be happy to give some further justification. **I would move that if a fixed minimum option is selected the following conditions would govern the activity: at the start of each fishing year and no later than January 31, states must declare if they want to participate in the fixed minimum program.**

**States have the option to opt-out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds of bycatch purposes and decline the remainder of their quota. States also have the right to opt-in to the program and receive their full allocation. In declaring its intent to receive its fixed minimum quota, a state can also choose to receive all, or part, of this amount.**

**If a jurisdiction declines its full allocation it must specifically identify the amount requested. States which opt-in must demonstrate that the state has the intent and the ability to commercially harvest some, or all, of its menhaden quota for the directed or bycatch fishery. This can be demonstrated through the issuance of permits for applicable gear types or species, historic landings, or the abundance of menhaden in state waters. Any quota that is not received by a state is redistributed to the other jurisdictions based on historical landings from the time-period selected by the Board in this Amendment.**

CHAIRMAN BALLOU: Is there a second to that motion? Seconded by Ritchie White.

MR. WHITE: For the purpose of discussion.

CHAIRMAN BALLOU: Thank you and Pat to you for discussion on your motion.

MR. KELIHER: I know this motion is a little Dave Pierce style. I apologize for that so there is a lot of moving parts. But according to the amendment the jurisdictions have the right to participate in the fixed-minimum program at their sole discretion. Under this option the states are entitled to receive a fixed percentage of the TAC. However, states have the rights to decline the fixed minimum allocation.

For the clarity purposes I'm calling this an opt-out provision. A potential concern is that the amendment does not provide specifics on how the forgone quota is to be redistributed among the other states. In addition, there are no specifications that a state must meet to keep their quota. At the August Board meeting concerns were raised about this opt-in process; and a motion was made to consider an opt-in provision, whereby a state would have to manually declare their intent to use the fixed minimum.

The motion failed as the prevailing side convincingly argued that the Board did not need to get into the details at that time. In addition, the Board retained the right to craft these provisions during the final approval process. That specific point is reflected in the minutes of the meeting; and since we're about to vote on the fixed minimum provision, I think it is imperative for us all to have a similar understanding of the conditions under which we operate before we vote on the issue.

CHAIRMAN BALLOU: Pat, for clarification, I believe I just heard you just heard you characterize this as essentially an opt-out provision; and I do see a lot of opt-out language in here. But I also see right up front, essentially an opt-in requirement as well. I therefore consider it to be both. Is that a fair characterization?

MR. KELIHER: Yes sir, Mr. Chairman.

CHAIRMAN BALLOU: Discussion on the motion; Ritchie White.

MR. WHITE: I guess a question for Pat. Would you be willing to, let's see where it says about if you prove abundance of menhaden in state waters. Would you change that to adjacent waters; because there can be large amounts just outside state waters that could be harvested and landed in a state?

MR. KELIHER: Yes, I would accept that as a friendly.

CHAIRMAN BALLOU: Is there any objection to amending the motion as just suggested? Seeing none; so if staff could just make that tweak to the motion. There was no objection to it, so that would be considered a friendly amendment, and that will go forward without objection from the Board, unless I see Robert Boyles objecting. Robert.

MR. BOYLES: No objection, just a question for clarification. Ritchie, do you intend, is adjacent indicating federal waters? We're not bunched up like you all are up there. I mean what is adjacent?

MR. WHITE: I would mean federal waters when I say adjacent, so I guess we could change it to state and federal, and/or federal.

CHAIRMAN BALLOU: Back to comments, and I have Jim Gilmore next.

MR. GILMORE: Pat, the concept of it is fine. The thing I'm getting stuck on is at the start of each fishing year. If you read through that we're going to be doing quite a bit of administrative work every year for staff; and then back at the states to go through this whole thing. It seems to be a lot of work. Is there a possibility that maybe we could do this at a longer time period?

Again, that is a lot to go through each year and again, some of it's going to be a bit of a crystal ball, because you're going to start at the fishing year and try to decide what's going to happen later on in the year. Like we've been seeing the last two years with menhaden, I don't have a problem this fall; last year I had fish kills all over the place. It just got a little bit more complicated. That's my only hang up is really that we would have to repeat this every year.

CHAIRMAN BALLOU: Pat, a response?

MR. KELIHER: It's not meant to be administratively burdensome. If a state is going to receive its allocation, it's just to ensure that that state gives a heads up that it doesn't need all of its allocation. Now I certainly understand that there is a crystal ball available here that is probably cloudy, depending on how the state wants to promulgate its fishery.

In this case what I'm looking for is for some more certainty up front, in regards to what may be available for a fishery. Then if a state does ask for it, tries to move forward with the fishery, you don't have the fish. There is a potential for a quota transfer provision to be voted on later in the day. Again, I'm not looking for making this administratively burdensome.

CHAIRMAN BALLOU: Let me go to John Clark next.

MR. CLARK: This is very interesting, Pat. I just had a few process questions on it. When you say a fixed minimum or receive all or part of this amount. Are you looking at that in increments or could a state just request anything up to whatever the minimum chosen? Then the second is how does this work in with the incidental catch? Are you looking to use this minimum so that we no longer have an incidental catch provision? Does it tie into that; because we're a state that has used the incidental catch provision pretty heavily over the last few years?

MR. KELIHER: I'm going to start with the second. This has nothing to do with any incidental or small-scale fisheries. This is purely for the allocation options that are potentially in play after a TAC would be set. John, remind me of your first question, because unlike Jay, I can handle one at a time not two.

MR. CLARK: I'm just wondering when you say a fixed minimum; receive all or part of this amount. This could get kind of messy each year. Would a state change how much they're requesting each year? For example, if it was like a 2 percent minimum that's I think about 100 times more than we're actually landing in a state like Delaware. We could just request part of that but do you want it in like half a percent, 1 percent, 2 percent? Just for administrative purposes, I'm just wondering what would be simplest here.

MR. KELIHER: I think it could come in just about any way, shape, or form; whether you wanted 50 percent of your quota available to that state or naming it as a pound. I think staff is going to have to translate that into what that number is for them to send out a redistributed amount to the states to be able to harvest.

CHAIRMAN BALLOU: Tom Fote. Are you passing, Tom? David Bush. David Borden.

MR. BORDEN: Not speaking pro or con, it just goes back to Jim's point about the administration. Would it simplify the administration if we just put a date in this? For instance, prior to December 31, or whatever other date. I'm not proposing that. January, well I think the problem as I understood Jim's issue is the fishing year starts January 31. Doesn't the fishing year start on January 1st?

CHAIRMAN BALLOU: Yes.

MR. BORDEN: To me, maybe I didn't understand Jim's point totally correctly. But to me the part of the mechanics of this is that this is going to have a direct impact on allocations

that are spread in other portions of this FMP. To me it would make sense to just back it up to December 1. Prior to December 1 for the following fishing year you would specify this; and then the staff would then have the ability to calculate the shares and splits of the quota for the state, and send out a memo to that affect. Maybe I'm not following this.

CHAIRMAN BALLOU: Megan, do you want to just speak to the comment you just offered me?

MS. WARE: Yes, I'll just remind the Board that we don't finalize the quotas for that current year until April, when we get the compliance reports, because we're not going to know overages or unused quota, things like that. At the May meeting that's when we come to you guys with final quotas for that fishing year. The intent was to be a bit ahead of that. But that's how we do it now.

CHAIRMAN BALLOU: Dave, a follow?

MR. BORDEN: Yes, disregard everything I just said.

CHAIRMAN BALLOU: Next I have Adam Nowalsky.

MR. NOWALSKY: For clarities sake, the start of this motion begins with, if the fixed minimum option is selected. Is the intent of this to only apply if we select Option C or Option E from the allocation decision? Is that the belief here? If that is in fact the belief, I would consider. I mean I think this is good discussion to have as a precursor to that knowing what a state or some other states may be thinking. But if this would apply only to those, perhaps it might be best to proceed with tabling this motion until after we have the allocation method discussion. But at least we've had this precursor to know what we might be looking at.

CHAIRMAN BALLOU: If put in the form of a motion we could consider that suggestion. Next I'm going to go to Senator Miner.

SENATOR CRAIG A. MINER: I guess because this is such a new denomination in Connecticut, one of my concerns is that I don't know how quickly that is the first year, you could ever demonstrate that you have the ability to catch whatever your quota might be. I could almost imagine that after a year we could look at this again; and make a determination whether or not some states ever intended to catch any of their quota.

But the winner in that if that were to occur, would be conservation, in my view. If we were not able to get up to speed and completely allocate a million pounds or whatever; the harm in that case would be I guess that the environment wins, if you believed in conservation. I would suggest that this is premature.

I appreciate the conversation; but I think it's premature on that front, and also just because you didn't get your quota in one year doesn't mean. How would you then demonstrate, as the rest of the paragraph goes on that you have the ability to actually use your quota? I do have one question, I guess, and that is there any other species where we have this requirement; through you, Mr. Chairman?

CHAIRMAN BALLOU: I see heads shaking in the negative by staff; so it's my understanding that there are no other species for which we would have a provision like this.

SENATOR MINER: I know there were some other people that wanted to speak, but I think it's premature.

CHAIRMAN BALLOU: Loren Lustig.

MR. LOREN W. LUSTIG: I'm sorry for my sore throat. I was earning a living yesterday, so I didn't get a chance to be here. I'm going to defray my spot to speak to my colleague Andy Shiels, but I would like to be allowed to offer comments after he has concluded, Mr. Chairman.

CHAIRMAN BALLOU: Andy, go ahead.

MR. SHIELS: Senator Baker (Baker?) raises a good point. If I read this from the lens of Pennsylvania, it feels like we're being targeted here. I feel like the state of Pennsylvania should have the right to do with its allocation what it chooses to do. As he suggested, the winner might be conservation if you don't harvest your entire allocation, and then how would you prove it?

Somebody said hang on. Oh, he was talking on the phone. I thought he meant me. Who knows in this room? I'm concerned as I'm starting to understand what's going on here. I feel like Pennsylvania should have the right to do what it wishes with its allocation. If it chooses to use that allocation as a set aside or reserved for conservation that language doesn't allow us to do that.

CHAIRMAN BALLOU: Loren, did you want a follow on now?

MR. LUSTIG: Yes, thank you, Mr. Chairman. Everyone here knows that I am not a fishery scientist. I am an environmental educator. I always hearken back to the wishes of the children of Pennsylvania. My proposal is to vote for this amendment. However, we reserve in Pennsylvania, the right of the children to choose the gear that is used to collect our part of the commercial harvest.

I would be willing to bet they're going to use the lousiest gear you can possibly imagine, full of tears and rips, and about 99.5 percent of our commercial harvest is going to escape unharmed back into the water. But we will harvest. We will abide by the specifications of this amendment with about one-half of one percent. All right, because the children of Pennsylvania wish it. In fact my grandchildren demand it, and I'm not going to turn my back on them.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: I think if there is a motion made to table, I think that's the way to go. You know I know that Pat has put up sort of an idea here on how things could go, but it is too early, and there is no magnitude here. I think Pat did that on purpose just to sort of get the opt-in or opt-out; but it is too early, so I agree with that.

CHAIRMAN BALLOU: Pat.

MR. KELIHER: I would not be opposed to actually seeing this tabled for discussions as it relates to Option C and E. I think Adam's points are valid. That was going to be my original intent, but I wanted to ensure that we had a good conversation around this opt-in/opt-out concept. Frankly, from my point of view, allowing for this type of opt-in or opt-out provision allows me to consider a lower TAC amount.

Because if we know what we're going to get up front versus at the end of the season, the state of Maine could be better prepared to understand what our targets will be. Understanding that up front also allows us to consider a more conservative TAC at the end of the day.

CHAIRMAN BALLOU: Pat, would you like to make a motion to table? I'm sorry; I didn't want to put words in your mouth. I wasn't sure if that's where you were going; maybe not. Adam.

**MR. NOWALSKY: Move to table until after we've had the Issue 2 discussion.**

CHAIRMAN BALLOU: Is there a second to the motion to table.

**MR. NOWALSKY: The Issue 2 decision.**

CHAIRMAN BALLOU: Moved by Adam Nowalsky, seconded by Roy O'Reilly to table this motion, which would postpone consideration of it until later in the meeting; so it just sets it aside temporarily and it can be

brought back later in this meeting. It's not debatable. Is there any need to caucus? Megan?

MS. WARE: Just get clarity on what Issue 2 is, what do you mean by that?

MR. NOWALSKY: Allocation methods and timeframes.

CHAIRMAN BALLOU: Tabling does not move it to a time or point certain in the meeting, although it can be brought at any time that anyone wishes it to. To me, the motion to table just simply puts in abeyance for the time being to be brought back at any point during this meeting. Are you comfortable with that Adam, or do you wish to change your motion to postpone to a time certain?

MR. NOWALSKY: I believe the motion to table is very direct about when this would come back off of the table and in front of the Board for discussion.

CHAIRMAN BALLOU: Understood, so let me read the motion into the record. Actually, I have it in front of me I think. No, I don't. **Move to table until after Issue 2: Allocation Methods and Timeframes have been decided.** Again, because it is a motion to table it is not debatable. Is there any need to caucus?

Seeing none; is the Board ready to vote? I believe so. **All in favor please raise your hand. Thank you, hands down; opposed, null votes, abstentions, the motion carries unanimously.** Would any other member of the Board like to make a motion? Dennis.

MR. ABBOTT: To remove it from the table is only going to require a majority vote?

CHAIRMAN BALLOU: Yes that is correct. The floor is now open for any other motions on any other issues. Jim Estes.

MR. ESTES: I would like to get back to specifications if we could please.

CHAIRMAN BALLOU: Go ahead.

MR. ESTES: I think that we have a motion. If I can put it up there I'll read it, and if I can get a second I'll explain. **I move to set the total allowable catch not to exceed 216,000 metric tons until such a time that ecological reference points are utilized for Atlantic menhaden management.**

CHAIRMAN BALLOU: Is there a second to that motion? Seconded by Spud Woodward, moved by Jim Estes and seconded by Spud Woodward to set a total allowable catch not to exceed 216,000 metric tons until such time that ecological reference points are utilized for Atlantic menhaden management. Jim.

MR. ESTES: I know that yesterday we disappointed a bunch of our stakeholders. I think we did the right thing. But part of the reason at their disappointment is, they fell like we could easily kick the can down the road; as far as developing these ecological reference points. I think that this motion does a couple things.

Number one, I think it would hopefully give them some confidence that we mean it; and also because we are tying it to allocation, or excuse me to the TAC, which we all think is important. It makes us somewhat accountable; and so that is the purpose of the motion.

CHAIRMAN BALLOU: Show of hands, who would like to speak in favor of this motion; keep your hands up, we'll take questions. First of all I just want to get a sense, so I want to be able to be able to allow for a balanced discussion. You can put your hands down. Those who wish to speak in opposition to the motion, or even leaning toward that.

I will give everyone on the Board a chance; I just want to get an initial list going. I'm sorry, was it Steve that you just had a question? Are you on

the list? Did you put your hand up? Well, we'll put you on the list, Steve, so you're on the list. Okay, I'm going to ask Megan for that list then I'm going to go right down in order in which she wrote it; starting with Ritchie White.

MR. WHITE: I want to speak in favor of it; but first a question if I may, and that would be that this is open ended time-wise, and if a situation arose by which menhaden declined substantially, and we had to take a cut in the quota, this would not alter our ability to do that. That would be my question first; then I would like to speak to the motion.

CHAIRMAN BALLOU: Jim.

MR. ESTES: Oh that was my intention, was that we could go down but we can't go up.

MR. WHITE: Thank you. I agree with the concept. I think 216 is a compromise. I know there are states that would like to see 240, and there are states that would like to see 200. I think 216 is an excellent compromise in the middle. I think 216 with an individual state allocation that I also believe will come up later.

I think it allows Virginia and New Jersey to stay whole while allocation goes to all the states that don't presently have allocation, and I think that's a fair compromise. I think it also leaves menhaden in the water; compared to 240,000 metric tons. I think all said it is something we should support.

CHAIRMAN BALLOU: Adam Nowalsky.

MR. NOWALSKY: I'll get right to it. I've always said that menhaden is one of the easier species for me here around the table; because of the involvement of the assemblymen that I represent, very involved with the fisheries. His goal at home was that the health of the resource argues in favor of something more. **I'm going to move to substitute to set a total allowable catch of 240,000 metric tons for 2018 and 2019.**



CHAIRMAN BALLOU: The motion is up on the board; is there a second, seconded by Dave Bush? I'm going to stay true to my procedural plan to allow discussion on both the main motion and the substitute; as we did yesterday. Speaking in favor of the substitute is often the same as speaking against the main motion; so there really isn't much of a distinction here.

However, I just want to make it clear that as you comment on the now substitute motion, you are welcome to comment as well on the main motion, offering your support for the main or your support for the substitute. That is how I would like to handle the ensuing discussion. I'm going to continue down the list and go to Allison Colden next.

DR. COLDEN: I would like to speak in opposition to the substitute motion. There was a lot of discussion of this body yesterday about the concepts of intellectual honesty and integrity; and along those lines Option E was seen as, or characterized as a not conservative option. Along those lines I would challenge the Board to think about whether 240,000 metric tons is indeed a conservative alternative to that option.

Additionally, we talked about not selecting a target that is arbitrary; relative to the current reference points. We currently have a fecundity reference point which we are not achieving the target. It would seem following that conversation that a TAC should be set which would move towards achieving both the fecundity and the fishing mortality rate targets.

I would support in concept the main motion. I think that Jim provided a lot of strong suggestions on why we should put some real momentum behind the development of the menhaden specific ERPs. I think we heard in the spoken public comment yesterday some great points about really putting some weight behind the Board's commitment to moving toward the menhaden specific ERPs, and I think that the main motion would achieve that.

CHAIRMAN BALLOU: John McMurray.

MR. McMURRAY: I don't support the substitute, and I think it's important here to give you guys a perspective of somebody who spends most of their life on the water, and who is absolutely dependent on this resource. My season is dictated by spatial and temporal aggregations of menhaden.

It is absolutely the driver of my business; and a lot of businesses up the coast now. As you guys are very well aware, we've had this super abundance of fish that has flooded our coast. I'm enjoying it right now. It's right off of the south shore of New York. With it are striped bass, whales.

I took my son out the day before, we had one come up right by the boat, screamed his first cuss word, it was awesome. I tried to act angry; but I just couldn't. But the point is that this is not some oily bait fish that can just be sucked up without impacting everybody else. This is a huge increase.

I know that there is no stock recruitment relationship, and I understand environmental factors that probably contributed to this resurgence that we're having now. But to say that that reduction had nothing to do with this abundance of fish, I don't understand it. I think it defies common sense. Not only are we going back to those pre-2013 levels, we are exceeding them by a lot.

If there is anybody around this table who believes that that is not going to affect the coastal stock that we're not going to see a contraction again. I hope that you are in touch with the public about this. They want this abundance. This is good for them, it's good for us. This is absolutely irresponsible to even suggest this right now, when we had all this public comment. Frankly, I can't see how anybody would support it.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: I can't support the substitute motion. You know we have been on the record in the past as supporting modest increases in the TAC when the science allows for that. We received our assessment update in August; which indicated stability in the assessment, and indicated that we were below both our fishing mortality target and thresholds, based on our fecundity reference points.

One of the other things that we have emphasized in the past is that significant changes in the TAC do not provide stability to industry. That's why we would be more supportive of the main motion. I think also, echoing some of the comments that have already been made around the table, modest adjustments in the TAC better position us to implement the menhaden-specific ecological reference points that we've made a commitment to down the road.

CHAIRMAN BALLOU: David Borden.

MR. BORDEN: Ritchie made one of the points and Michelle just made the second point, so I'll make the third point, which is I'm opposed to the substitute motion. Just note that really to me the deciding difference here is Motion 8 caps the catch at 216,000 and Motion 9 basically establishes the catch for two years based on that level. There is a significant difference between the two.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: I'm going to look at this a little differently. I don't support the 216,000 metric ton TAC, because just like we heard with what Pat Keliher presented earlier, everything is nested here. You know if we had a huge blackboard with arrows, we could probably wend our way through this process a lot easier.

But to say 216,000 metric tons is right. We don't know what that means yet. Is that going to be the total? What happens to bycatch, what happens to episodic events, you know

things that may make a difference? You've heard about the pound net fishery in Maryland and Virginia. Depending on what is attached to these 216,000 metric tons has a lot to do with where we end up today.

My particular desire here is just to say that I don't agree with 216,000 metric tons; because we don't know what else is going to go along with that. We have a menu, but really the menu as we go through it is interwoven, in a sense, and it makes it very difficult at this time to support 216,000.

CHAIRMAN BALLOU: Steve Train, did you still want to offer a question or comment?

MR. TRAIN: Yes, thank you Mr. Chairman. A lot of the questions I had have been answered. I think I like the hard dates in the substitute motion. The open-ended dates in the first part make me nervous. We're hoping to have everything out by 2019, but we might not. If we have a very healthy resource we have room to move up a little bit from 216, and we wouldn't be able to do that.

I think 214 sounds reasonable sometimes when I see the statistics we have, but I also see the pecuniary numbers, and I think that may be a little bit overreaching. I think we have a possibility of increasing the harvest on this resource for years and years, a little to a time, if we don't take too much at once. I think that benefits every user of it. There are parts of each one of these motions I could speak in favor of. Either one of them individually I'm not quite ready for.

CHAIRMAN BALLOU: Steve, just for clarification. You said 214; did you mean 240 in your comment just now? Thank you; that was a yes for the record. Roy Miller.

MR. MILLER: I think I oppose the substitute motion in favor of the original motion; for all the reasons that have been state thus far, but also I have to look at the optics of this situation.

The original motion has a modest increase, about 8 percent. I think that is prudent; considering the overwhelming public support that we heard yesterday. I think it's a little premature at this time to bump it up to 240,000 metric tons.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: Surely everything has been said on this subject at this point. I don't support the substitute motion like many of my colleagues, and I think we've heard enough discussion about where everyone individually stands. It is clear to me that it's time to make a vote on how big the pie is going to be; then following that we'll figure out how many pieces of pie that we're going to cut it up into. I would like to ask that we think about taking a vote; because I don't think that any further discussion is going to change anyone's point of view at this time.

CHAIRMAN BALLOU: I do have three others on my list. I would like to at least move through those and then see whether the Board does want to call the question. Next I Have Robert Boyles.

MR. BOYLES: I'll pass, Mr. Chairman. Thank you.

CHAIRMAN BALLOU: Loren Lustig.

MR. LUSTIG: If Dr. Seuss was here in the room with us, he would remind us of the limitless forest of truffula trees, and wouldn't you know it, something called a Thneed could be made from them. If you're wondering what the final outcome of over harvesting was I can tell you at our break? I do reserve the right sometime today to use the word unless. Some of you will also remember that.

CHAIRMAN BALLOU: Pat Keliher

MR. KELIHER: I'm going to refrain from my Dr. Seuss quota that I was going to go into. I'm going to speak against the substitute motion.

While I support setting a TAC for the 2018 and 2019 years, I think as Dr. Duval stated, an incremental step in moving forward I think is called for at this time.

CHAIRMAN BALLOU: I was just going to ask the Board if there was any objection to ending debate and calling the question. Two hands went up. I'm going to go to those two hands, and then I'm going to ask that same question. Dr. Rhodes.

DR. RHODES: Listen, all the discussions we've had, this Board is committed to the ecological reference points. It's just a matter of how we're getting there. Thirty-three years ago, I took another doctor's commitment that was to first do no harm. But I really want to go back to what Hippocrates said, and of the epidemics. I'm going a Robert Boyles to get us all in place here. But the physician must be able to tell the antecedents, know the present and foretell the future. He must meditate these things and have two special objects in view, with regard to disease.

We can substitute menhaden; namely to do good or to do no harm. I think the 240, while it may be allowable, is not allowing for the least likelihood of doing no harm, and doing the most good for the resource. The 216 will make a lot of people whole, will allow for states that want allocation to get it without negatively affecting states that currently have allocation.

Having it set until the ERP is ready to go allows the staff to not get caught up or this management Board to get caught up, in setting these same discussions year after year after year. Hopefully, allowing the ERP to be done that much more rapidly, so in a two-year or three-year time period we're ready to have the next level of discussion, so a different doctor, but same process.

CHAIRMAN BALLOU: David Bush.

MR. BUSH: Obviously once again we've got some excellent points around the table and points of view to consider. Some of the things that we've talked about are stability, and we do need that. We need that in the industry, we need that in the environment. I completely respect that. But we talk about stability a lot more when we're considering an increase. However, whenever the numbers start dropping, well stability is not as important as the resource.

Okay well I get that. I mean it's got to play fair both ways, given that setup. But the other thing is, the promises that we made yesterday. I had some interesting conversations yesterday evening and you know was put on the spot. I agree. I think we made some promises and we wrote some checks that we need to make sure that the bank has the money to cover when it comes up here in a few years.

We've mentioned the conservative nature of one number over the other. Just to point a couple of numbers out. I looked up yesterday while we were discussing this. From 1950 to 2016, our average landings in metric tons were 333,000 metric tons. From 1950 to 1980, it was 410,000 metric tons, and from '80 to 2016, it was 266,000 metric tons. Keep in mind that we haven't exceeded 266,000 metric tons since before 1995, but up through 2016 that is still our average. As far as being conservative, we're talking about 216 to 240.

I was looking yesterday at the numbers put up on the board, and it seems like that 230, 240 appears to be a crossover point to where once you get above that some of the zeros start shifting into whole numbers. I don't know if maybe this would be appropriate if the makers of the motions might consider it, maybe amending the motion to include some of the better values of both of these motions. If so, I would be willing to do that if I could get some help.

CHAIRMAN BALLOU: I think first of all I would like to ask is there any member of the Board who has not yet spoken on either of these motions, who would like to speak? Seeing none, and taking David Bush's comment into consideration. Is there any objection to calling the question and moving forward with the vote on the substitute? Seeing no objection; we will caucus for one minute and then vote on the substitute. All right, I'm going to call the question. **This is a vote on the move to substitute to set a total allowable catch of 240,000 metric tons for 2018 and 2019. All in favor of the motion please raise your hand. Hands down, all opposed please raise your hand. Hands down, null votes, abstentions; the motion fails 4 to 14.** We're back to the main motion; further discussion on the main motion. David Bush.

MR. BUSH: As I mentioned earlier, there were some very valid points in both. I think we need to, in my opinion, as soon as the ERPs are out use them. That needs to be in there. I think specified years, it's been mentioned a few times that we need to mention those exactly as well. While I think I agreed to second the motion with 240,000, it was more for discussion purposes, but also because I believe that these modest increases while they are great, you know to say that they're modest.

You know these folks who rely on stability also rely on good years, and they never experience the good years, only the bad. I think looking at the numbers that we looked at yesterday, we can certainly see that there are quite a few higher numbers that have been shown to be more than fair to both the environment and the fishery. With that being said, if you're willing to take an amended motion or to amend this motion to include some of those finer points, I would appreciate the opportunity.

CHAIRMAN BALLOU: You're welcome to do so if you would like.

**MR. BUSH:** All right, and I'll need some assistance, but I would move to amend to set the total allowable catch and not to exceed 220,000 metric tons for 2018 and 2019. Sorry, help with the wording, or if the ecological reference points are available before then, however we would best word that.

CHAIRMAN BALLOU: Staff is putting the motion up on the board. Dave, I take this actually to be another move to substitute. Are you comfortable making that?

MR. BUSH: That's fine.

CHAIRMAN BALLOU: I don't see this as an amendment.

MR. BUSH: But I would want the maximum timeframe to be two years. I want it to be readdressed if we do not have these ERPs available by then it needs to be addressed, and not continue on. Whenever you're ready, I would like to speak to it for just a moment.

CHAIRMAN BALLOU: Yes let's just make sure we get it correct. First of all, and I realize this is a fine point. It could well be an amendment. But I just would like to suggest that it read; move to substitute, so Max if you could make that change, ***to set a total allowable catch not to exceed 220,000 metric tons for 2018 and 2019, or until ecological reference points are available for management use, whichever is first. Dave is that your intent to make that motion?***

MR. BUSH: Yes. I don't believe it needs to be specified, but I'm referring to the species-specific ecological reference points, but if that needs to be in there then that is fine as well.

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Rachel Dean, Dave, discussion on the motion?

MR. BUSH: Yes sir and I mention this allot, I'm the new kid on the block here. I'm trying to

understand what our goals here when we show up at each one of these meeting. I've talked to some of you earlier; you know on the federal side it's pretty easy, there is a lot more doctrine, there is a lot more guidance. These are the goals; this is what you should be striving towards.

Here it's not quite so easy. But I understand that we need to take care of the environment. I understand we need to take care of those who rely on it as well. I really do believe if we're willing to provide reductions to protect the fishery in a bad year, we should also have the intellectual honesty to provide the ability to harvest during good years as well.

Now that may go against the philosophy of stability; but at the same time you can't only have average years and bad years. There is only one way to get an average year, and that is to take a bad year and provide a good year to offset it. I think this does that. I think arguing once again for numbers, simply because they're round is silly, and I hate to be part of a discussion that does that like we did last year.

I chose 220, because I think 220 is the point where a lot of our zeros turn into again whole numbers, when we're talking about the possibility of exceeding certain targets or thresholds. That is my reason for choosing 220. If the seconder would like to provide any other comment, I would appreciate it.

CHAIRMAN BALLOU: Rachel, I will go to you, but first just by a show of hands, who else would like to speak? I'm assuming Rachel wants to speak in favor, although she doesn't necessarily need to. Who else on the Board would like to speak in favor of this motion to substitute? Just put your hands up so I can go down the list, at least initially. I see three hands. Thank you, those who wish to speak in opposition. I see two. With that I will go to Rachel Dean.

MS. RACHEL DEAN: Dr. Seuss, I am here, I am here. I struggled with this. My first meeting I got to go through as we were setting the TAC the last time. It was brutally painful. But there is something that has always resonated with me as I've participated in fisheries management, and that is that we are so quick to take and so reserved when it's time to give credit where credit is due.

I've heard both sides of the argument. I have heard that decreasing the TAC did nothing; which I would sit here and apologize to fishermen then. That weight is on me now as I look at a 0 percent chance; a 0 percent chance of exceeding the F target; which means 100 percent chance of not exceeding the F target.

If this was successful management, if this got us to where we are to where we're starting to see a resurgence of menhaden, bunker, peanuts, up and down the coast. Then I would ask that we give some credit where credit is due. This isn't putting us back to harvest levels that got us into an awful situation.

This is by no means putting us back to where we were. This is just putting us somewhere where we have put credit into the management system so far; and saying to our fishermen that management does work. Have a little faith, because it will be given back to you when it allows for it.

CHAIRMAN BALLOU: Ritchie White.

MR. WHITE: I'm going to oppose the substitute motion. There is also a piece of giving and taking, certainly is for the fishermen. But there is also for the resource that needs menhaden. We're certainly going to take some from all the description we've heard about the whales, the bluefish, the striped bass, and the birds that also need menhaden.

We've had a lot of comments about the support for ecological reference points. Clearly those, when we get those, are going to have us leave

more menhaden in the water. I think the 216 is a compromise from the people I talked with last night and yesterday afternoon that I was hearing 201,000 as a possible motion and 240. I think the 216 is a fair motion.

I also oppose putting the dates in there. I oppose putting the dates in there, because what if the reference points are not ready in 2019? Do we want to go through this process again for one year? I don't think so. I think the original motion allows a little bit of time to make sure that the reference points are in place.

CHAIRMAN BALLOU: Russ Allen.

MR. ALLEN: I thought Rachel hit all the points very well, so I won't reiterate what she had to say. I just know that this to me is a good compromise between the resource and the fishing industry. If we decide to move forward with some sort of fixed minimum, it should make everyone whole and give everyone enough of the resource for their own states.

I think it really is the good between 200 and 240. As Rachel said, there is a 0 percent chance of going over the target with this number. That came from the Technical Committee, which I believe would have no problem moving forward with this either.

CHAIRMAN BALLOU: John McMurray.

MR. JOHN McMURRAY: This is bizarre to me. This is a public resource. It's like nobody looked at or read the public comment or went to the public hearings. The public wants enough of these fish to stay in the water so they have access to these whales; they have access to the striped bass, access to the bluefish.

Does anybody care what the public wants? A 20,000-pound increase is a lot of fish; it is hundreds and millions of fish. The analysis that we have right now in impact is single species; it's based on a single species stock assessment.

We have no idea what the impact on predators will be.

I would argue that we should wait to see what that impact is, and that we know the tradeoffs. We have science to base those decisions on before doing something like this; which is just way over the top in my opinion. Frankly, 16,000 metric tons is a hard pill for me to swallow; but I think it's reasonable, 20,000 pounds is not. The public frankly is going to flip about this, and they have a good reason to. I'll leave it at that.

CHAIRMAN BALLOU: John, several times you said 20,000 pounds. You meant 20,000 metric tons, I believe.

MR. McMURRAY: Yes sir, thank you.

CHAIRMAN BALLOU: David Blazer.

MR. BLAZER: I'm in support of the substitute motion. I think the 220,000 metric tons is kind of a moderate increase; based on what the Technical Committee has provided for us and the risks that are involved there. I'm also supportive of just setting this for the two years. You know we fully want the ecological reference points to be here as soon as possible. We kind of mentioned that yesterday. But I think if we start to manage to that third and fourth year out, I think we need kind of a two-year timetable to kind of reevaluate at that time. If we've got to go through a TAC setting exercise in two years that is our responsibility. That is us as management Board, so I feel very comfortable in making those decisions in two years, and I think that's our job to do that so I'm fully supportive of the motion to substitute.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: I'm not in support of the substitute motion. One of the comments that struck me this morning, we've talked about Dr. Seuss and other things to add a little levity to the conversation. But a comment that John

made across the table, having his son out there and seeing a whale and saying awesome.

Well, this spring or early summer Ritchie White took me and my grandson from Milwaukee out striper fishing. My grandson caught a nice striper; and his first comment was awesome. The awesome came from the fact that the stripers that we were catching this summer were extremely healthy. I don't know if it has a lot to do with menhaden in particular.

But Ritchie White and I fished a lot, and we would always when we had a fish on the line, how big, how big. Ritchie would always overestimate the size of them, because the fish seemed to be so strong. What I'm getting at is the general public wants to see menhaden in the water; thousands and thousands and thousands of people from, (Audience Applause) thank you but hold that back, we don't need that. We appreciate it, but we don't need it.

But, it's true that the general public wants to see fish in the water. Whether it's 216, 220, it might seem like a small figure. But I think the general public would really like to see that number under 200,000. If you really get down to it, they don't want to see the extraction of menhaden to go to fish meal or a lot of products for whatever that they don't understand.

But they understand what they see out in the water. For that reason I think that there is a compromise figure of 216, which comes out. It should keep most people whole, give all the states some piece of the pie, and keep the states of Virginia and New Jersey hopefully in a good position. I urge you to vote down the substitute motion. Vote on the main motion. I mean we could go on all day. We can go from 220, we can go 280.

Maybe I'll be prepared to make a motion next, or if 220 passes to make another motion for 214. But 216, seems to be the best compromise figure; and I urge my colleagues to vote down

the substitute motion. Vote for the main motion of 216,000 metric tons, and let's move on to the allocations.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: I don't know about a compromise when you start off with 216,000 metric tons. I'm not sure we have a flowing recollection of all the different steps that we've taken. But I have heard repeatedly about making states whole again; specifically Virginia, New Jersey, and also Maryland.

Starting in 2013, those were the three states that were above 1 percent, in terms of the allocation. I think that during the allocation process, when Robert Boyles was hosting at least eight calls. Most of the comments were about capacity; and I kept urging through the series of those phone calls, capacity isn't what you're doing now.

We want to know what capacity is as you look down the road a little bit. I'm not sure that that ever occurred. I'm not sure there were every enough discussions about what capacity really is. I do know Rhode Island has capacity that wasn't there many years ago; or at least the boats weren't ready to embark on taking some of that capacity from the total allowable catch.

I also know that Maine ran into a situation where the episodic problem was more than episodic; it was bordering on catastrophic, with the constructs that we have, and with the episodic being held at 1 percent. I also know that New York was sweating bullets; having gone through two seasons of menhaden kills, and somehow being included with New England, which is fine, in the episodic events.

We have these situations that when I saw 216,000, if you'll notice, I didn't speak in favor of 240,000. I said 216,000 is not the right amount. We have a little way to go. Pat Keliher started the situation today and made me a little

bit nervous; because it was sort of open ended on this minimal quota situation.

No matter where you look, you're talking minimum being 39 million, with a half percent, 70 million with 1 percent, and 83 million that probably couldn't be used out of 141 million that would be for 2 percent. I know everyone has good intentions; and I think they stand by that and I stand with them, in terms of the reference points.

But we made a decision, and the decision was we're still united. We want those biological/ecological reference points. We have a pretty good feel that it's going to be sometime in 2019 for peer review. I think the substitute motion gives a little more assurance that two things can be captured today.

One will be to make states whole on a situation which I'm not going to recount; unfortunately, many of you remember as I do what we've been through, all the steps. I won't recount them on where we are today compared to where we were in 2012. The second thing is there is capacity that hasn't been there before.

That has to be recognized, and that is fair. I can't tell you right now how many menhaden are left in the water; because when they did the updated assessment and you had the NAD situation, you had those northern fish, which sort of perturbed the model a little bit. It's difficult to say whether the 68 percent that were left in the water at the time of the benchmark is higher or not. We just don't know; and I have asked that question, because there is concern for forage, definite concern. There is also a concern by all of us for forage in the form of herring; forage in the form of the alosine. Menhaden is not exactly the only forage species out there; and I think as we go through this, whatever we do we ought to start making renewed commitments on the alosine, and we ought to get the New England Council to maybe make some renewed commitments



on herring. Thank you for your time. I do support the substitute motion.

CHAIRMAN BALLOU: Allison Colden.

DR. COLDEN: I would just like to make a comment, and maybe reframe. Actually Rob just touched on this. Reframe the concept of the timelines that are included in each of these motions. Option B was adopted as our reference points yesterday by this Board; with many of the comments expressing confidence that the menhaden-specific ERPs would be ready for primetime in 2019, or at least out for peer review.

Personally, I don't see if the Board was so confident in that fact yesterday, why it would be necessary to change or limit the TAC setting exercise here for two years, if there was a high level of confidence that those models would be ready as we saw in our discussions yesterday.

CHAIRMAN BALLOU: Ray Kane.

MR. RAYMOND W. KANE: Yes, I'm going to speak. I'm going to oppose the substitute. I'm in favor of the main motion. I've heard around the table fishermen want to see an increase. Well, if I'm not mistaken we started at 185,000 metric ton, and then we went to 200,000 metric ton. Once again, we're increasing.

Fishermen should be able to walk away from here saying well we did get an increase. What nobody has reflected on is the bluefin tuna fishery in New England. For the first time in years the vessels, 35 and 40 foot vessels, didn't have to steam 130 miles out to the Hague Line to catch the quota in general category.

We had fish, many a fish were landed within three miles of the coast this year, and I venture to say vessels didn't have to fish more than 30 miles offshore. If you've ever fished for a living, you know what I'm talking about. When you're on a 35 foot vessel or a 100 foot vessel;

hundred foot vessels belong 130 miles offshore, 35 foot vessels don't.

My concern is also ecological reference points. I think this is a modest increase. People will be happy with it. I've had a lot of constituents back home, the bluefin tuna fishermen especially; tell me why are they going to raise it at all? We finally have menhaden back in our waters. I mean we had 800 pound bluefin tuna in 20 feet of water this year.

A pod of them came up in 30 feet of water. To address Mr. O'Reilly, you know there is an issue with herring. There is a reason why all these big animals came that close to the shore, because of the abundance of menhaden on the backside of Cape Cod. Once again, I oppose the substitute, and I'm in favor of the main motion.

CHAIRMAN BALLOU: Is there anyone who has not yet spoken on the substitute who would like to? David, you had your hand up. Last crack, final comment then we'll vote.

MR. BUSH: A couple of points I guess I would like to bring out. One, we've talked about reinvesting for a conservatory effect. Given the allocation schemes, states can do what they want with what they get; so if their particular state is now seeing an increase in menhaden and what not, and they don't want to use that as a fishery base. That is up to that state to sort of determine what they would do with that; and we'll be discussing that in other options here shortly.

I mean that's certainly the potential; I'm not saying that would be the case, but it could. Another thing I guess I would like to point out. You know our current trajectory, our management philosophy has gotten us where we are, not a particular number. While it's nice that we've finally seen an increase from where we were to 200,000 metric tons, you know we're also at the lowest point, the lowest harvest limit we've ever been at.

Again, I spoke of the averages over the years. We've never come close to our average, even over the past 20-30 years for the last ten years. It's not because they're not out there, it's because they've been limited from catching it. We've gotten to the point now where it's once again fighting over scraps.

We forget the big picture. We forget that there is more fish; and we certainly don't want to do things to cause harm to the ecosystem. But we don't even have the capacity to harvest what we use to harvest for decades; and we still have those fish and the predators that relied on them. I've talked to the bad guys, the big bad guys that are in the room before today, before this meeting.

I've never once had them come to me and ask me, we need you to get all you can get. We want you to double the quotas. They've never asked that. They said this appears to be what's fair. This appears to be what the science supports. You know I've talked to them. I've talked to the other folks. Well, they say the same thing; this appeared to be fair what the science supports.

If we're going to do a modest increase, and we have the range from about 200 to 240, 220, I mean my math is a little rusty. But that seems about in the middle. Again, it doesn't crossover that threshold that starts putting us in harm's way. Then I guess the final note. You know the abundance is either due to our management actions or it is not. If it is due to our management actions, we're doing the right thing. If it's not due to our management actions, then apparently we have less control than we thought.

CHAIRMAN BALLOU: One minute caucus and then we'll vote on the motion to substitute. Okay I'm going to call the question. I'm sorry, Andy.

MR. SHIELS: Could we have a roll call vote, please?

CHAIRMAN BALLOU: We can, and we will, and we will move south to north and Megan will call the roll.

MS. WARE: U.S. Fish and Wildlife.

MR. MILLARD: No.

MS. WARE: NOAA Fisheries.

MR. BURNS: No.

MS. WARE: Florida.

MR. ESTES: No.

MS. WARE: Georgia.

MR. WOODWARD: No.

MS. WARE: South Carolina.

DR. RHODES: No.

MS. WARE: North Carolina.

DR. DUVAL: No.

MS. WARE: Virginia.

MR. O'REILLY: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Delaware.

MR. CLARK: Yes.

MS. WARE: Pennsylvania.

MR. SHIELS: No.

MS. WARE: New Jersey.

MR. ALLEN: Yes.

MS. WARE: New York.

MR. GILMORE: No.

MS. WARE: Connecticut.

MS. GIANNINI: No.

MS. WARE: Rhode Island.

MR. BORDEN: No.

MS. WARE: Massachusetts.

MS. MESERVE: No.

MS. WARE: New Hampshire.

MS. CHERI PATTERSON: No.

MS. WARE: Maine.

MR. KELIHER: No.

CHAIRMAN BALLOU: **The motion fails 5 to 13. We're back to the main motion;** and I believe Megan has a suggested clarification on that so I'm going to turn the microphone over to Megan.

MS. WARE: For the main motion, this sets a number that the TAC cannot exceed, but this does not specify what the TAC is in 2018 and/or 2019. If the intent for the maker of the motion is to set it at 216, perhaps we could do a friendly amendment. It says move to set a total allowable catch to not exceed and be set at 216.

MR. ESTES: That's fine.

CHAIRMAN BALLOU: Let's put that up there. **The revised motion, which is the main motion, which is the motion before the Board is to move to set a total allowable catch not to**

**exceed, and be set at 216,000 metric tons, until such time that ecological reference points are utilized for Atlantic menhaden management.** I was going to ask if there is any objection to making that friendly amendment. Seeing no objection; the motion as amended is before the Board, and we have apparently comments on it starting with Roy Miller and then Rachel Dean.

MR. MILLER: Did I hear Megan mention 2018 and 2019 as part of that friendly motion; because that wording didn't make it onto the board.

MS. WARE: I didn't. I think the intent, and makers of the motion please correct me, was that there not be years in this so I have not put in years. But I was just trying to clarify that the 216 is actually the TAC that they are interested in.

CHAIRMAN BALLOU: Rachel Dean.

MS. DEAN: I would like to think that this is a friendly amendment; but I think that we're probably going to want it as a substitute motion if I may. Can I do that at this time?

CHAIRMAN BALLOU: Well there is a big difference between a friendly and a substitute.

MS. DEAN: Let me read it out. Let me share where I'm going, and we'll go. I think that I would like to move to make a substitute motion that would say: **Move to set a total allowable catch not to exceed and be set at 216,000 metric tons for 2018 and 2019 or until such a time that ecological reference points are utilized for Atlantic menhaden management.**

CHAIRMAN BALLOU: I don't think that's a friendly. It could be an amendment, it could be a substitute. Let's just call it as substitute, just to kind of keep on track here.

MS. DEAN: I would like to speak to it if I could.

CHAIRMAN BALLOU: I'll give you that chance. I just want to make sure that it's up on the board clearly and accurately as you intend. This would be to, once Max gets done, move to substitute to set a total allowable catch not to exceed and be set at 216,000 metric tons for 2018 and 2019 or until such time that menhaden-specific ecological reference points be available for management use. Is that your motion, Rachel?

MS. DEAN: Yes.

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Steve Train? Rachel, would you like to speak to your motion?

MS. DEAN: At this point in time I guess I'm really kind of, Ritchie White said it that you know, I don't really think that I want to go through this again. To be honest, I'll go through it as many times as I need to, I will. I'll come here, I'll pack the bags and I'll come here. To be honest, I think that the public will too.

This isn't necessarily so that only the fishermen can state their case. But I think that I want the reference points. I'm ready for them. I just don't know if we can accomplish the timeframe. If we see something that tells us that we can increase that TAC, then I think that we should come back to the table and we should have that discussion. Just like we included the language that says not to exceed, so suggesting that we could reduce that.

CHAIRMAN BALLOU: Just so I understand exactly what this would do. This would set the quota at 216,000 metric tons for 2018 and 2019. You know this issue that it can't exceed; I'm not really sure how that plays in now, so I'm looking for clarification from either you or other members of the Board as to how they would view this.

Then it goes on to say or until such time that menhaden-specific reference points, which I guess would imply that it could happen sooner and if it does they would trump. But if they

don't happen sooner, it would be 216 for 2018 and 2019, and I'm just sort of wrestling in my own head with what not to exceed now, how that plays into this. Rachel.

MS. DEAN: Yes, and we would be back here at 2020, and I'll leave the second part of that question to I guess back to maybe the seconder.

CHAIRMAN BALLOU: That would be Steve Train, so Steve you're next.

MR. TRAIN: When I seconded this, my understanding would be that with the dates on there we could decide after 2019 whether to continue to wait if the numbers were not available, or we could act and set a new number. That's where the "or" is. That is what I thought I was seconding.

The reason I think that is important is although we have a lot of faith in getting the ecological reference point numbers out for 2020. If the peer review doesn't accept it, or we run into other problems, we could be into 2023, working under 216,000 metric ton. I think a date certain is important; but it gives us a chance to extend it if we think we're getting close with this "or" in this part of the motion.

CHAIRMAN BALLOU: Robert Boyles.

MR. BOYLES: This is good conversation, and I'm struggling with this as well. I think my interest in this portion of the discussion and the debate is and Mr. Estes made the comment at the very beginning about accountability. I think in some of my conversations over the last several weeks, I may have shared with you concerns over further delays in biological/ecological reference points.

My interest in the main motion as I understand it and in reference to Mr. Estes was this was some internal accountability. Having said that and I would look to you, Mr. Chairman. I don't know that anything that we do here today necessarily binds a future Board. If conditions

change, I would think that as Ms. Dean referenced, we would come back and look at those conditions to see, is it time for a course correction?

But again, my interest in the main motion, and I think in the substitute, I'm not clear, is some internal Board accountability. To take Mr. McMurray's point, you know we had thousands, tens of thousands of comments from the public saying you all commit, you all do this. You all do biological/ecological reference points.

I think the message, I hope that was sent yesterday is we are committed. I've seen no disagreement about that around the table. This is just designed to provide a little bit more internal accountability. I need to wrestle with the substitute; but again, if we can get to the substitute. If the substitute ensures that internal Board accountability then I can support it.

CHAIRMAN BALLOU: I've got Adam Nowalsky next.

MR. NOWALSKY: I'm in support of the idea of adding a timeline. My question with the two years at this point, as we've gone through the discussion and I know it was my motion earlier. Is that enough or if we're going to go down the road of holding ourselves accountable as a Board. Before I get to that question, let me just say that accountability to ourselves and the public. You know we've heard comments asking why we aren't doing exactly what the public asks us to do. Well, there were other comments that asked us to do certain things here.

Just because we didn't do exactly what any one of those people wanted us to do, didn't mean that we haven't considered it, and it hasn't strongly factored into our ultimate decision that we make around the table here today in future decisions. I think all of that public comment on both sides is excellent. It's needed; and it helps hold us accountable, and I think that we're being responsive to it. But my question at this

point is that should the ERPs get done as we heard yesterday what their cautiously optimistic about, I think was the term I heard, and should they be peer reviewed in 2019. Would our spec setting process for 2020 already have occurred by the time they're available to use, and would the timeframe here not be better for 2018, '19 and '20, because our spec setting process would already have occurred in 2019?

MS. WARE: There is not obviously a date for that peer review yet in 2019; so I can't say what month that is going to occur. It is important to consider that specification process for 2020. What I can say is that Amendment 3 says that the Board can following peer review of those menhaden-specific ERPs, can adopt those through Board action or through an addendum process. An amendment is not needed, so if it's through Board action those could be implemented in 2020. An addendum would obviously take a little bit longer, but it facilitates public comment if the Board is interested in that.

CHAIRMAN BALLOU: Adam, do you have a follow?

MR. NOWALSKY: Does staff feel if the cautiously optimistic timeline of development of ERPs comes to fruition, is 2018 and 2019 spec setting enough? Would those ERPs be useful to us in a reasonable timeframe for 2020, or would we still need spec setting for 2020 without use of the ERPs?

CHAIRMAN BALLOU: Bob Beal.

EXECUTIVE DIRECTOR BEAL: Let me give it a try. Keep in mind that spec setting is not part of Amendment 3. That is outside the Amendment 3 framework. Specs are something that needs to be done either multiyear, single year, however this Board chooses to do that. If 2020 is added to this motion, and I'm not saying whether it should or shouldn't be.

Then if the ecological reference points are available and the Board wants to modify the 2020 total allowable catch that will take a two-thirds vote by the Board. Robert Boyles hinted at this a minute ago. You know the actions of this Board really can't tie the hands of any subsequent Boards or subsequent meetings of this Board.

Even though this motion says 216, not to exceed 216 for the next two years, if there is a compelling reason and this Board votes through a two-thirds majority to make a change, even in 2019. They have that ability. The Board can't tie the hands of future Boards. ASMFC and the Policy Board and the Charter reflect that.

There is a Commission-specific provision that any final actions taken by the Commission and spec setting is a final action, can be rescinded or modified through a two-thirds vote. Including 2020 in here would then have that two-thirds majority requirement in place to change 2020. The flexibility is still there, the hurdle is just a little bit higher, and I think it would need to be compelling to more of the Board to make a change in 2020. That is the quick procedural summary of where we are, and the Board can decide where to go from there.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: I'll pass.

CHAIRMAN BALLOU: Dr. Rhodes.

DR. RHODES: Well, this is just a question. I don't see a difference between these two motions; other than we're setting a limit for two years and having an "or" in there. If we do not have the ecological reference point's ready in 2020, we default back to 216. It's an identical motion the way it's written with the "or" in there, I believe. I mean I'll stand for other people reading it. But the way it reads is we're setting it for '18, '19, and then we have "or" so if 2020 it's not ready, doesn't it default back to 216 the way it's currently written?

CHAIRMAN BALLOU: Let me do this. I have several folks on the list, but I would like to ask if anyone has a response to the issue just raised by Dr. Rhodes; and I see three emphatic hands up, so I'm going to go left to right, Robert Boyles first.

MR. BOYLES: Point of parliamentary inquiry, Mr. Chairman. What is two-thirds vote of this Board?

EXECUTIVE DIRECTOR BEAL: It depends. The provisions of the Charter say that there are 18 votes on this Board, so two-thirds; you know you get the math. But there is a provision that if the Federal Services abstain, the denominator can change so it can be 18, 17, or 16, depending on the number of votes cast by the Federal Services, so it depends.

CHAIRMAN BALLOU: Rob O'Reilly, and if you could, Rob, just specifically to the point that Dr. Rhodes raised a minute ago regarding the difference between these two motions. I think it's important to kind of focus on that first, and then we'll go to the other comment.

MR. O'REILLY: Highly focused. I think, do we have a default position? Didn't we run into a little bit of trouble when we realized we really couldn't fall back to a quota from the previous year or a TAC? If that has not been remedied then Dr. Rhodes suggestion might run us into a problem again.

CHAIRMAN BALLOU: Are you speaking to the Indecision Clause that's in the document?

MR. O'REILLY: And what we did with the Indecision Clause, yes.

CHAIRMAN BALLOU: We agreed that if the Board could not agree on specifications for the next year that specifications in place for the last year, the current year as it were, would continue forward. It would be a status quo situation.

MR. O'REILLY: Thank you, Dr. Rhodes.

CHAIRMAN BALLOU: Rachel Dean, on the specific issue of the difference between these two motions.

MS. DEAN: Yes, I think that we've mentioned before that sometimes it's just to keep it in our memory, and by including the 2018 and 2019, my intention there was just that we would be reminded that these discussions can happen. That is not to say that those discussions wouldn't happen if it wasn't in there; but again, I just want that reminder that the option is there.

CHAIRMAN BALLOU: I have four more people on the list, and then I'm going to see if the Board would like to move forward with voting on this. Next is Tom Fote.

MR. FOTE: Our long history of setting two-year, three-year specs have not worked out so well; especially with some of the species we've gone through like summer flounder, black sea bass and others. I agree with Malcolm; this is a lot to do about nothing. Either one of the motions mean the same thing to me, because we're going to bring it up for discussion.

I guess the first motion is just clearer. I don't like putting years in, because we have a habit of pushing years off anyway. The Board can decide. It reminds me of New Jersey's budget. Most people don't realize in New Jersey that when you pass a budget every year it supersedes all the other budgets.

All the dedicated funds you made for the last 20 years can be superseded by the next budget, which is unusual I think for any other state but New Jersey, because we do things kind of funny there. This reminds me of that; because we always have the option of coming back and doing whatever we want the next following year, it just takes a two-thirds vote, and if anything is that strong we should do it. I support 11, just because it makes it clearer.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: It was really more a point of information. My understanding, in terms of timeframe, you know with regard to the menhaden-specific ecological reference points that the peer review is right now currently expected to be completed by 2019, in conjunction with the new benchmark assessment, correct? Okay I'm seeing nods from staff around the table. That was the only point I wanted to bring up is that those will be in conjunction with the new benchmark.

CHAIRMAN BALLOU: Loren Lustig.

MR. LUSTIG: First of all I would like to sincerely complement Rachel, for her use of the word honesty. Not only did she use it sort of introspectively for herself, she also referenced the honesty given to us by the recreational anglers who are in this room, who represent tens of thousands of additional recreational anglers.

I'm really big into honesty and civility during this discussion. Now, somebody mentioned the word levity recently; especially in regards to Dr. Seuss. I assure you I am deadly, deadly serious about this whole matter, okay. There is a time for levity, but there is also a time for serious consideration.

CHAIRMAN BALLOU: Ritchie White – pass, last comment on this, Doug Brady.

MR. BRADY: To Dr. Rhodes point. Under 13, do I take it to read that there is no possibility until ecological reference points are available that the TAC could be over 216,000 metric tons? I mean I think both motions are saying that if you adopt either one there is no possibility the TAC would be set over 216,000 metric tons until we get ERPs. Is that the way I would read this?

CHAIRMAN BALLOU: My reading is that Motion 13 specifies that for 2018 and 2019 the TAC shall be set at and shall not exceed 216,000 metric tons. That could be trumped, because it then says "or" until such time that menhaden-

specific ecological reference points be available for management use.

I take it therefore that it would be open; in terms of what the specifications would be for 2020. It would require a subsequent Board action versus Motion 12, which would enable that same metric, if you will, to continue forward beyond 2019. I don't see that and maybe I'm misreading it, and if I am and I see Rachel's hand up, please clarify, so Rachel.

MS. DEAN: I think it should probably say "or unless."

CHAIRMAN BALLOU: Do you want to urge that that be modified as such?

MS. DEAN: Please.

CHAIRMAN BALLOU: ***Let's see if there is any objection to modifying the substitute to replace the word "until" with the word "unless." Is there any objection to making that amendment to the substitute motion? Seeing no objection; the substitute motion is so amended.*** Are there any other particularly members of the Board who have yet to speak on this issue who would like to before we call the question? There has been obviously a little bit of an added wrinkle just noted. Eric Reid.

MR. REID: At this point we're splitting hairs, and in my case I don't have the luxury of being able to do that all that much. That's levity without Dr. Seuss if you don't mind, I appreciate that. That is what we're doing. What I would really like to see is take a five minute break. Let the four people involved in these two motions figure out what they really want to say and get it over with; instead of spending the entire Board's time trying to do the same thing, Mr. Chairman.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: I've been sitting here for, when I was going to speak the last time that I was

interested in making a motion to limit debate; which would require a vote of the Board, because I think we've heard enough. Just like Eric just said, it's time to vote, and if the Board is interested in voting, **I think I would like to make a motion to limit debate.**

CHAIRMAN BALLOU: Is there a second to that motion? Seconded by Loren Lustig, **is there any objection to the motion to limit debate and vote on the substitute motion? Seeing no objection; we will close debate and we will caucus for 30 seconds and then vote on the substitute motion.** Okay, before I call the question I believe Robert Boyles has a point of inquiry.

MR. BOYLES: I was asking ISFMP Director and the Executive Director to clarify for me what staff's interpretation of the difference between the two. My question specifically related to the question of binding future Boards. I think Toni had some comments that helped clarify it for me that may help the Board.

CHAIRMAN BALLOU: Toni Kerns.

MS. TONI KERNS: Two things that Robert and I talked about; sort of the difference between these two motions. Under 13 the Board would come back and revisit specifications after 2019; regardless of the progress of the ecological reference points. Under 12, you could continue on until perpetuity, I guess.

Then under either motion, if the Board wants to have a TAC that is different than 216 in future years, you would have to come back and do a two-thirds majority vote, because you have set a TAC at 216, even if it is less than 216. Under Motion 12, you still have to come back and have a two-thirds majority vote, because you've set it at 216 in this motion. Under 13 you only have to do the two-thirds majority vote for '18 and '19, because you haven't set a TAC beyond that in Motion 13.



CHAIRMAN BALLOU: Does that answer your question, Robert?

MR. BOYLES: Yes sir, thank you.

CHAIRMAN BALLOU: We've ended debate. Are there any clarifying questions? Really, Loren, I'm hesitant to go to you only because we really have closed debate, caucused, and we're really ready to vote. I would take a question, but only on a point of order. Go ahead, Loren.

MR. LUSTIG: Pennsylvania requests a roll call vote.

CHAIRMAN BALLOU: That is an appropriate request. We will have a roll call vote; and I will ask Megan to call the roll moving from north to south.

MS. WARE: Maine.

MR. KELIHER: Yes.

MS. WARE: New Hampshire.

MS. PATTERSON: Yes.

MS. WARE: Massachusetts.

MS. MESERVE: No.

MS. WARE: Rhode Island.

MR. REID: No.

MS. WARE: Connecticut.

MS. GIANNINI: Yes.

MS. WARE: New York.

MR. GILMORE: No.

MS. WARE: New Jersey.

MR. ALLEN: Yes.

MS. WARE: Pennsylvania.

MR. SHIELDS: No.

MS. WARE: Delaware.

MR. CLARK: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

MS. WARE: Virginia.

MR. O'REILLY: Yes.

MS. WARE: North Carolina.

DR. DUVAL: Yes.

MS. WARE: South Carolina.

MR. BOYLES: No.

MS. WARE: Georgia.

MR. WOODWARD: No.

MS. WARE: Florida.

MR. ESTES: No.

MS. WARE: NOAA Fisheries.

MR. BURNS: Yes.

MS. WARE: Fish and Wildlife.

MR. MILLARD: Yes.

**CHAIRMAN BALLOU: The motion passes 11 to 7. The substitute becomes the main, and I would like to think that we might be ready to take final action on this particular issue; and**

then perhaps have a break and take on the other issues. Unless anyone wanted to make any other motions to amend or substitute. I'm not encouraging that I'm just making the offer. Dennis Abbott.

MR. ABBOTT: I would make another motion to limit debate. I think we've had enough debate on this; it's time to vote.

CHAIRMAN BALLOU: Okay. Is there any objection to limiting debate and taking final action at this point? Seeing no objection; I appreciate the sentiment. I don't think we need to put that in the form of a motion. There is unanimous consent on the part of the Board to do that; so we will now do that. This will be the main motion. We will take a vote. Is there a request for a roll call? Oh, it has to be a roll call because this is final action on specifications. That said; we'll call the roll and we'll just stay with the flow on going north to south.

MS. WARE: Maine.

MR. KELIHER: Yes.

MS. WARE: New Hampshire.

MR. ABBOTT: Yes.

MS. WARE: Massachusetts.

MS. MESERVE: Yes.

MS. WARE: Rhode Island.

MR. REID: No.

MS. WARE: Connecticut.

MS. GIANNINI: Yes.

MS. WARE: New York.

MR. GILMORE: Yes.

MS. WARE: New Jersey.

MR. ALLEN: Yes.

MS. WARE: Pennsylvania.

MR. SHIELS: No.

MS. WARE: Delaware.

MR. CLARK: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

MS. WARE: Virginia.

MR. O'REILLY: Yes.

MS. WARE: North Carolina.

DR. DUVAL: Yes.

MS. WARE: South Carolina.

MR. BOYLES: Yes.

MS. WARE: Georgia.

MR. WOODWARD: Yes.

MS. WARE: Florida.

MR. ESTES: No.

MS. WARE: NOAA Fisheries.

MR. BURNS: Yes.

MS. WARE: U.S. Fish and Wildlife.

MR. MILLARD: Yes.

CHAIRMAN BALLOU: **The motion passes 15 to 3; and** we have dispensed with that agenda

item, and we are now going to take a ten minute break and reconvene at 10:04. Thank you.

(Whereupon a recess was taken.)

CHAIRMAN BALLOU: I'm going to call the meeting back to order. The next order of business is to continue forward with the other issues in the amendment. Moving in sequential order the next would be quota allocation and timeframes. As set forth in the amendment there are six options for allocation methods; and five options for allocation timeframes. The intent is to find a way to move on both; a sort of Tier 1 approach combined with a Tier 2 approach. With that is there anyone who would like to make a motion on the issue of quota allocation and timeframes? Pat Keliher.

MR. KELIHER: Last night I had indicated I had put together a bundled motion; and after thinking through it last night, and after going through this morning, I have broken it apart and I have sent Megan some language that needs to be tweaked just a little bit. She may have already tweaked it.

**I would move to choose the following options in Draft Amendment 3: Section 4.3.2 Allocation Method Option C with a jurisdictional allocation with a Minimum Base Allocation of 0.75 percent fixed minimum for the Quota Timeframe of 2012 to 2016. Section 4.3.3 Quota Transfer Option A: Quota Transfer would be permitted. Section 4.3.4: Quota Rollover Option A: Unused Quota May Not Be Rolled Over.** I will end there; Mr. Chairman.

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Ritchie White? Moved by Pat Keliher; seconded by Ritchie White to do just what Pat read into the record, and is now up on the screen. Is there discussion on the motion? Emerson Hasbrouck.

**MR. HASBROUCK: I would like to offer an amendment to that motion.**

CHAIRMAN BALLOU: Go ahead.

**MR. HASBROUCK: Such that Section 4.3.3 Allocation method Option C; jurisdictional allocation with a minimum base allocation of a 1.0 fixed minimum.**

CHAIRMAN BALLOU: Is there a second to that motion to amend? There is, Nichola Meserve moves to second the motion to amend, so moved and seconded to amend the main motion by changing what I understand to be the first part, and that is in lieu of a 0.75 percent fixed minimum, a 1 percent fixed minimum. I'm sorry, I know Max is putting that up on the board, but Emerson did you want to maintain the quota timeframe of 2012 through 2016?

MR. HASBROUCK: Yes.

CHAIRMAN BALLOU: Maybe we don't need that. I guess we're just modifying that one portion therefore of the first bullet in the main motion; discussion on the motion to amend, Jim Gilmore.

MR. GILMORE: I actually can support both motions. But we're back in the same issue is that a 1 percent to me is cleaner; because we essentially cover I think everybody's fishery, in terms of both bait harvest and possibly episodic event. We go into a 0.75 then I would feel more comfortable, and I probably would argue later on that we go and have some episodic event, you know because we're kind of pushing up against maybe some of the actual harvest going on right now. It's another chicken and egg thing. I like 1 percent without episodic event. I like 0.75 with an episodic event.

CHAIRMAN BALLOU: David Borden.

MR. BORDEN: I would just like to follow up on Jim's point; and point out a nuance of the linkage here with other issues. The percentages can be used by any state; regardless of what the percent is. The percent can be used by any state for catches in both state and federal

waters episodic program can only be used for catches in state waters.

Now that sets up the dynamic where, and I'll use Rhode Island as an example of this so everybody understands it. The guy sitting immediately to my right had some of the vessels in Point Judith landing menhaden from federal waters. They were part of a herring catch. If you have one program you can land those, and if you have the other type of program you can't land those. This subtle distinction that a percent is, I think more desirable from a coastwide perspective as opposed to the episodic program.

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: I'm not opposed to the motion to amend. I think I would still argue for some sort of an episodic, because of the potential for fish die offs that we have within the state of Maine are real, and have big economic impacts. I was trying to not look like I was going for too much of a fish grab here; to be honest, trying to have some recognition to both New Jersey and Virginia and also to the other jurisdictions to the south. I can go either way; but I would want to see some sort of an episodic, and obviously I'll talk to that later.

CHAIRMAN BALLOU: Emerson Hasbrouck.

MR. HASBROUCK: My motion to amend does not preclude an episodic event. My motion does not relate to episodic events at all. That's another issue. But also, in terms of minimum allocation, states like New York and there are other states as well, did not have a very good data collection system in place for bait fisheries, which includes menhaden.

There were other species as well. In New York, we weren't able to get our reporting system in place until just over the past few years. Now that we've got that reporting system in place, we realize that the fishery is more extensive and more robust than what was originally

recorded or not recorded. I think with again at least a 1 percent, it could even go for more.

But 1 percent brings us to a place where we can cover our current fishery with a slight expansion. Additionally, in terms of public comment, we've heard a lot yesterday and today about public comments. I know that in New York, and I don't recall from Megan's presentation yesterday public comment in other states. But there was significant public comment in support of states having at least a 1 percent fixed-minimum.

CHAIRMAN BALLOU: Ritchie White.

MR. WHITE: I struggle with this, but I'm going to oppose the amendment. When I originally talked about a 216,000 ton quota, I talked about compromise and I talked about trying to meet everybody in the middle. My concern with the 1 percent is that it will not keep Virginia and New Jersey whole in this process.

I say that we don't have to keep Virginia and New Jersey whole. This is allocation. But I think in a compromise situation, I think it will be wise to. I think the three-quarter percent; I believe we can make both those states whole, combination of the quota they would get and then added to that would be some chance at the unused allocation that would go into a pool from the states that would not be using their three-quarter percent. Based on that thinking I'm going to oppose 1 percent and stick with the original motion.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: I oppose the amendment, the 1 percent, also in opposition to the idea that having a combination, which was mentioned of Episodic Event, which is about 4.8 million pounds, and then tacking on this 0.75, which is pretty close to about 58 million pounds. They are definitely not linked in magnitude. I mean a 1 percent Episodic Event is relatively small; compared to providing a minimum, even at a half a percent to all the states.

The problem is the way things stand now. If you look at 2012 through 2016, the best performance by the states that would be receiving the minimal, in addition to the three states that are already above 1 percent is there would be a lot of unused quota. That might be okay for some states that wish to do that.

We talked about opt-in and opt-out; but clearly, I don't want to call this a precedent, because it's been around, but other than American eel, where certain states were provided 2,000 pounds that did not have previous landings. That was done in the quota-building process, and the quota hasn't come due yet. But that was in a process taken by the ASMFC. Here we already have a quota system; and part of the situation is going to be a minimum, which we're not sure what will happen. Clearly, I would rather substitute for this if you don't mind.

CHAIRMAN BALLOU: I prefer to vote first on the amendment; and then entertain a motion to substitute.

MR. O'REILLY: I think that's fine; but please know that Virginia is opposed.

CHAIRMAN BALLOU: Other comments on the motion to amend. Is the Board ready for the question? Is there a need to caucus; 30 second caucus? Robert.

MR. BOYLES: Maybe a question for staff. At the TAC at 216,000 metric tons, just for my purposes can you tell me what that equates to in pounds?

CHAIRMAN BALLOU: Megan is looking that up.

MR. BOYLES: And what 1 percent equals, if you would, please Megan.

MS. WARE: The total TAC in pounds is 476,198,486; and for 1 percent it is like 4.76 million, roughly.

CHAIRMAN BALLOU: Okay I'm going to call the question. All in favor for the motion to amend please raise your hand. Hands down; those opposed please raise your hand. Hands down; thank you, null votes, abstentions, we have two abstentions. **The motion fails 6 to 10 with 2 abstentions. We're back to the main motion. Rob O'Reilly, did you want to offer a substitute?**

MR. O'REILLY: Yes, and I'll have some brief remarks about it. **But I would move to substitute Option F under Section 4.3.2 as the allocation method.**

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Dave Bush. Moved by Rob O'Reilly and seconded by Dave Bush to substitute what I understand to be, is it your intent, Rob to substitute the entire main motion with your substitute motion?

MR. O'REILLY: My understanding, it would just be at the top of the main motion with the allocation method; not the transfers and not the rollover.

MS. WARE: Rob, there are two sub-options for Option F. Do you want to include which sub-option you are interested in?

MR. O'REILLY: I was hoping that would be discussed after this; because that has an importance of its own, in terms of the allocation. I think really what we're looking at in F is we have reached that situation with Sub-option 1, where it would be a 50/50 distribution between bait and reduction, and Sub-option 2 is 70 percent to bait, 30 percent reduction.

The reason I'm hesitant to declare one is I think, just like Robert Boyles just did. I think it's important that we know the outcome of Sub-option F; in terms of what's going to be available. I don't think anyone is working on their calculator fast enough to help me out on that. We're looking at when 212,500 are exceeded, which with 216,000 it is.

That's going to leave approximately another 212,500 is 468.4 million, and 216,000 metric tons is 476.1 million. We're looking at about 8 million pounds. I think in the sense of fairness, I think we ought to know that the Board can say, well that either does help my situation or it does not. That is a really long response, Megan.

CHAIRMAN BALLOU: It's okay, and it does sound like that if I understand how this would go that if the Board were to approve this amendment, there would then be a subsequent motion to clarify the particular sub-option associated with this.

MR. O'REILLY: That's correct.

CHAIRMAN BALLOU: Okay I'll take comments both in favor and opposed. If you wish to speak in favor of this motion, please raise your hand, question, John Clark.

MR. CLARK: Option F states that the timeframe is 2009 to 2011; whereas the motion states the timeframe is 2012 to 2016. Could Rob clarify which timeframe he wants to use for Option F?

CHAIRMAN BALLOU: I think Megan has a response.

MS. WARE: The part up to the 212,500 metric tons that is our current allocation method; so that is based on the 2009 to 2011. The part above, so the difference between 216 and 212,500 metric tons, I am assuming that is what that 2012 to 2016 timeframe is applying to. We can try and clarify that if you would like in the motion.

MR. CLARK: Well, that is kind of confusing, because under Option F the additional is just either divvied up between the bait and the reduction fishery. It doesn't say anything about a timeframe there. The base option F does specify a timeframe; and it's not the timeframe that is in the motion right now. That is where we need some clarification.

MS. WARE: Yes, so what the amendment says is for the sub-options; depending on if it's a 50/50 or a 70/30 split. That distribution is "based on landings during the timeframe chosen in Tier 2," which is the timeframe options. That difference, and if we need to I can pull up the picture that describes this option, because maybe that will help. But I'll look to Rob to see if he is looking to have that difference be based on the 2012 to 2016; and maybe if he is we can clarify that in the motion.

MR. CLARK: Well, Megan I'm just saying that it says at or below a TAC of 212,500, which is our base situation. The quota is allocated based on average landings from 2009; you know the current allocation method, whereas this motion up here would imply that no, we're not using that timeframe. It makes a big difference to states like ours which timeframe is used.

CHAIRMAN BALLOU: John, this is my take on where we are. Rob's motion to substitute would replace all of the first bullet in the main motion. That quota timeframe 2012 to 2016 would not apply; because it's not applicable to Option F. ***This is a motion, and make sure it's correctly worded.***

***Substitute Option F under Section 4.3.2: fully replacing the way the current main motion is proposed with regard to Option C, and what Megan has been referring to is that if this motion were to pass, we would necessarily have to come back and address the timeframe issue associated with a delta between 212,500 and 216.*** Does that make sense?

MR. CLARK: Yes, I have that. Okay, it's just the way the motion is. I see, so the entire timeframe is gone then from the original motion.

CHAIRMAN BALLOU: That is my interpretation. Rob, do I have that correct?

MR. O'REILLY: You do, and Megan had it right as well. Another decision would have to be

made if this passes. Then we'll have to choose one of the sub-options and also the timeframe is under Tier 2.

CHAIRMAN BALLOU: Okay, we have a few hands up. I guess I'll just try and just alternate back and forth, without necessarily figuring out if it is pro or con. I'll go next to Adam Nowalsky.

MR. NOWALSKY: We have a motion to substitute; but if I'm clear on what you're saying, we're not substituting 18 for 16; we're only amending 16 to remove the first bullet point with the information contained in 18.

CHAIRMAN BALLOU: That's correct.

MR. NOWALSKY: Okay so that would probably best be clarified as an amendment to the original motion then.

CHAIRMAN BALLOU: I concur, so let's make it that; thank you for that clarification, so motion to amend the first bullet in lieu for substituting for the entire motion, thank you. It is now a motion to amend and it only refers to the first bullet under 16; with that further discussion on the motion to amend. Nichola Meserve.

MS. MESERVE: I can't support the substitute motion. I don't feel that this Option F meets one of the main objectives of this amendment document; which is to develop a management program which ensures fair and equitable access to the fishery for all regions and gear types. Given the TAC that we have selected, this is going to redistribute a very small amount of quota to the other states, and not meet the needs that we have identified.

There has been some discussion that while we can use the Episodic Event Program to address those needs still. But as pointed out that doesn't provide for the state flexibility to manage that episodic amount as best fits the needs of the states. I can't support the substitute and support the main motion.

CHAIRMAN BALLOU: David Bush.

MR. BUSH: One of the reasons why I supported this, and let me preface it with it's no front page news that North Carolina has long had a reduction fishery until of recent years when we decided that was the route we didn't want to pursue anymore. We would most certainly like to have more poundage than we have; at least enough to make it economically feasible to pursue a bait fishery. We most certainly would love to do anything we can to get that without damaging those who depend on it on a regular basis.

We won't pursue that bait fishery at the expense of communities that rely on it. We understand that different states have different fisheries that they are heavily reliant on. We all know that North Carolina has a big fishery that we're reliant on. While we would pursue a bait fishery at almost all cost, we would not do so at the expense of other communities, other infrastructures, other states that have grown to rely on it due to the actions of this Board.

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: I want to echo Nichole's comments. I'm having a real hard time with this being equitable. What I was trying to move forward in the original motion was some sort of balance between the jurisdictions. Maine caught over 4 million pounds alone; and if my rough last year and my rough estimates, this would split between jurisdictions just under 5 million, if our math is right. I've got very big problems with this motion; and I will be opposing it.

CHAIRMAN BALLOU: Emerson Hasbrouck.

MR. HASBROUCK: I'm also opposed to this amendment. I agree with Pat and Nichola that this does not meet the goals of equitable distribution to states that don't have much quota.

CHAIRMAN BALLOU: Any other comments on the motion to amend? Seeing none; is the Board ready for the question? If so, do you need time to caucus? Let's give it a 15 second caucus, just to make sure. Okay, it looks like the Board is ready. **All in favor of the motion to amend please raise your hand, thank you. Those opposed, please raise your hand, thank you. Any null votes, any abstentions? We have two. The motion fails 1 to 15 with 2 abstentions. We're back to the main motion.** Is there any further discussion regarding the main motion? Seeing none; is the Board ready to vote on the main motion, which has three parts? There it is up on the board. This would be a vote on all three parts; the allocation methodology, the timeframe, quota transfers and quota rollovers. It would address all three components.

If the Board is ready for the question I will call it. **All in favor of the motion please raise your hand, thank you. Opposed please raise your hand, thank you; any null votes, any abstentions? We have two. The motion passes 14 to 2 with 2 abstentions.** We are moving along. Now up to, let me pause. There is a motion that was tabled. Is there any interest in bringing that back now or at any point? I guess that's a decision for the Board. Adam Nowalsky.

MR. NOWALSKY: **I would move to bring that previous motion, take it from the table.**

CHAIRMAN BALLOU: Is there a second to that motion to bring the tabled motion back? There is; it is seconded by Emerson Hasbrouck. Moved by Adam Nowalsky and seconded by Emerson Hasbrouck, to bring back the tabled motion for consideration by the Board. I forget whether this is even debatable or not.

**But let's just see if there is any objection to doing that. Seeing none; that motion is back before the Board** and we'll wait for Max to try to catch up and see if we can get that back up on the screen. Okay, I think we have it up. Let's

just make sure we've got it correct. I know there were a couple tweaks made to it. I assume this is the motion as it stood prior to when it was tabled earlier this morning; so it's back before the Board, discussion on this motion. Emerson Hasbrouck.

MR. HASBROUCK: I have a question about process here. I generally support this motion. However, is the decision on states opting in or opting out, is that going to be brought back to the Board for decision at our February meetings, or is this going to be a staff decision or an Administrative Committee decision? How is that going to work?

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: The way it is crafted is that any quota that is not received by state is then redistributed to the other jurisdictions. I see it this is a staff effort to say this is where we are, as far as what states have requested. It goes into a pot, and then that would be automatically redistributed.

CHAIRMAN BALLOU: Emerson Hasbrouck.

MR. HASBROUCK: Thank you, yes follow up on that. I'm referring to the part that says in terms of opting in: that the states which opt in much demonstrate that the state has the intent and ability to commercially harvest some or all of its menhaden quota, et cetera, et cetera, and how it could be demonstrated et cetera. I understand the part of it just going into a common pool; but who is going to make that determination as to whether or not the states have the ability to catch their allocation if they opt in?

CHAIRMAN BALLOU: Pat, do you want to speak to that?

MR. KELIHER: I'll try, Mr. Chairman. The way I've envisioned it, maybe wrongly here, is that states would submit with their request what they have for regulations on the books



associated with that fishery. If a jurisdiction didn't have regulations on the books associated with that fishery, then they wouldn't be able to request quota associated with it. In concept that is where I was trying to go.

CHAIRMAN BALLOU: Discussion on the motion; John Clark.

MR. CLARK: Just further clarification I guess; because you have the option to opt out of the program, so you can either opt out or opt in. You have to opt in, and if you do opt in you have to prove you can catch what you're – I'm sorry if I'm repeating some of the things here. It just seems a little contradictory here, these first two lines.

CHAIRMAN BALLOU: I'll leave that open unless somebody wants to grab onto it. Next I have Steve Train.

MR. TRAIN: I like this option. The last thing we just voted on prevents rollover; which I think is a good thing. But we're talking about a highly migratory species up and down the entire east coast. Sometimes they're in some places and sometimes they aren't. We're not allowing the rollover, yet the population might be healthy.

We have some jurisdictions that might not choose to prosecute this fishery; but we've determined that the resource is healthy, and some areas may be seeing a larger abundance. To allow this to happen and go back in a general pool, I think is perfectly reasonable and a very healthy thing to do as far as the fishery goes.

CHAIRMAN BALLOU: Jim Gilmore.

MR. GILMORE: Just to go back to Pat's comment, because it made me feel a lot more comfortable with this motion. The bar would be if you have regulations in place to harvest that would be the only requirement you would need; and if that's the case, I'm completely okay with this and support the motion.

CHAIRMAN BALLOU: Pat, do you want to say that on the record, please?

MR. KELIHER: That's the intent.

CHAIRMAN BALLOU: That could be clarified in the motion. It's up to the Board to decide whether they want to try to perfect this, clarify it. But we've just had a good exchange regarding intent. Next I have Rob O'Reilly.

MR. O'REILLY: I think roughly it looks like about 43 to 44 million pounds from the last motion on the 1 percent would be allocated; and clearly that exceeds the capacity that we think we know around the table. My question is, the last motion also talked about the transferability. I'm wondering how that coupling works with the opt-in situation opt out. For example, which comes first or are they coupled together? A state may choose to opt out, and then does the state have the ability to transfer right after that?

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: There are probably a hundred different "what ifs" here. Again, the intent, jurisdiction opts in; they don't have fish within their state waters. They are not harvesting those fish. They end up with a surplus at the end of the year. The ability is for another state could request a transfer to help with any overage that might have happened within their jurisdiction. I'm trying to create some certainty up front for states that will promulgate fisheries; and the flexibility on the back end, in case they go over what their targets are.

CHAIRMAN BALLOU: Russ Allen.

MR. ALLEN: I have a few problems with this motion. One of those hits really hard at New Jersey; because we already have two species where we have quota that we do not use. One is striped bass; where we have a commercial quota, and we have as everybody knows, a

recreational program that allows some of that harvest.

But we do not reach the total harvest. The other is horseshoe crabs; where we have a quota that we do not use. I would really have a hard time if this passed; trying to defend how we don't use that horseshoe crab quota. It's really hard for me to even think about this. I can feel for Pennsylvania on that one; where they are trying to be conservative, and this doesn't let them do that.

CHAIRMAN BALLOU: Senator Miner.

SENATOR MINER: I'm trying to get, I guess a feel for the sentence that says any quota that is not received by a state would then be redistributed. Is it the intent here that that redistribution could occur either at the front end or in the back end of that given year; so it either could be used to cover overages of another jurisdiction or it could be used in the pool on the front end, to theoretically increase the quota that states might get that are still in the fishery?

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: The intent is for it to be redistributed on the front end. The ability within the last motion spoke to the ability to transfer. That would be on the back end of the fisheries.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: A couple things I guess. I apologize that on the previous motion, I just wanted to clarify for the record that our vote was based on the timeframe, not necessarily the method that was used. That timeframe was not really good for North Carolina; but it is what it is. I'm still struggling with demonstrating intent and ability to commercially harvest some or all of that quota; and I guess I'm concerned about if there are years where due to whatever.

I mean we're in a hurricane belt; you know that impacts a lot of our fisheries pretty significantly, and if folks don't have the opportunity to get out there that it would impact our ability to opt in to our full allocation. I'm still struggling a little bit with that part of the decision making process. I absolutely appreciate what Pat's trying to do here; just trying to wrap my head around it.

CHAIRMAN BALLOU: I'll just say, my understanding of the way this motion reads is that there are three ways that you could demonstrate your intent and ability. One would be the issuance of permits for applicable gear types or species. The other would be via historic landings. The other would be the abundance of menhaden in state and/or federal waters. As I read this motion literally, those are the three standards that would be applied to a state's request. Dr. Duval.

DR. DUVAL: Follow up. I mean right now the timeframes for harvest that we're using in this amendment did not allow states and jurisdictions that previously had reduction fisheries to be able to. Those landings were not included in those historic timeframes; so are we going to be allowed to use that as demonstration of availability of menhaden in our waters?

CHAIRMAN BALLOU: I guess I have my interpretation; but I would rather look to the maker of the motion as to what your intent is with regard to historic landings, and how that should be applied.

MR. KELIHER: To the literal sense, historic landings. I was trying to be inclusive; as we developed this in trying to give some flexibility. It is any one or combination of those three criteria. In my mind, Maine had a reduction fishery at one time. That would come into play here if we were in the situation to want to consider the use of this.

CHAIRMAN BALLOU: I'll just challenge you; if you don't mind. Does historic in your opinion mean any time prior to, or at some fixed time prior to or during some fixed timeframe prior to?

MR. KELIHER: In my mind it is any time prior to.

CHAIRMAN BALLOU: That clarifies the intent. Andy Shiels.

MR. SHIELS: We're in a unique position; and I really appreciate Russ Allen mentioning that. This really looks extremely complicated for something that could be very simple. The question I have as almost an objective observer is what is the need for all the language? We just said what the distribution is going to be; three-quarters of a percent.

You take the total amount; somebody already calculated it, what each state should have. You divide that up, and that's what the state's quota is and you're done. There doesn't seem to be a need for a state to determine now or at the beginning of the year whether they're going to be in or out of the fishery.

If they decide, if two or three states decide to hold their quota for whatever reason, maybe because the environmental activist and encouragers and the recreational fishermen say to that state, we really don't want you to catch that full quota. We know it's available; but we would like to meet with you, and we think maybe you should only take 50 percent of the quota that's due you, because it's affecting our local waters.

That option would exist if you don't have all this language. This seems to me that it's almost like a states' rights issue that the states now are going to give up their authority to make a decision how they want to spend their marbles. We were all given 200,000 marbles or 212,000 marbles; metric tons are marbles yesterday. Today we're given 216,000 metric tons of marbles. New Hampshire might decide to keep

all their marbles; or they might decide to give some of their marbles away. That should be their right that I don't think should be predetermined at the beginning. Let the state's decide how they want to spend their marbles.

CHAIRMAN BALLOU: Robert Boyles.

MR. BOYLES: I'm struggling with this. You know we've just made, if this amendment passes, if the whole amendment passes, we have just allocated 3.5 million pounds. You all have given me 3.5 million pounds, the Palmetto state 3.5 million pounds of menhaden that we don't have those fisheries developed. I think that is clearly a policy call.

That is a motion that passed; and if the amendment passes that will be our operating stance. I appreciate the intent of the motion, you know as one of the states with really not a dog in this fight. I appreciate the intent of the motion to perhaps soften the blow or to ease the impact of the entire amendment, whatever we pass here today.

At the same time, I struggle with the whole idea. I should have prefaced this at the beginning. It is my full intent that we will have biological/ecological reference points; which will first determine how many fish we're going to leave in the water. This is I think I've described to a number of you, at its essence an allocation amendment.

The first order question is how much to leave in the water. I think we've committed to that through our actions yesterday and today and through the intent of the amendment. Once we've determined what that level of ecosystem services is, then the real question is how are we going to split this portion of the pie that we take out of the oven to eat?

I struggle. You know South Carolina just has no capacity for 3.5 million pounds of menhaden at three-quarters of a percent. I'm certainly willing to play ball for the good of the cause in

implementing this policy of managing these species for ecological services; as well as supporting a bait and a reduction fishery.

But I struggle with this. I don't know that the Commission, I would look to staff, is this precedent setting, in terms of giving a state a share of the pie that we have absolutely no intention of using? That is another policy call that I'm just struggling with. I've enjoyed the conversation. Let me rephrase that. I'm learning a lot through the conversation; and will continue to grapple with it.

CHAIRMAN BALLOU: I do know you asked a question. We'll see if we can get a staff response to that. But I'll next go to Ritchie White.

MR.WHITE: I support this and I'll give you the example of how this will affect New Hampshire; and how I see this working. Presently we have negligible landings. We also have a large purse seine vessel that lands millions of pounds of herring in New Hampshire annually. This year they talked about landing mixed loads of herring and menhaden.

It didn't happen this year. They also talked about additional availability of menhaden showing up; and they may want to land total loads of menhaden, and they come in at 400,000 pounds a trip. This would allow us to, we would opt in, and I'm just guessing, maybe a million and a half pounds. Put the balance right out of the gate into the pool; and see how it went for a few years. Maybe we would opt out of all of it in the future; if that vessel stopped landing in New Hampshire. But this gives the flexibility of us not being in a position where we would have to lock a fishery out; having no quota that we presently have. I think that is a fairness issue.

I also support this; because I think this is the compromise originally in the 216,000 metric tons that I was talking about. This gives each state a chance at a fishery; and this fishery is

changing, so we need some ability for states that haven't been fishing in recent times to have a chance to fish now. But it also puts back into the pool the fish that aren't used.

That gives the ability to try to make some state whole that may not be whole; with the use of the three-quarters of a percent going to the new states. I think that is the compromise; this balances it. I understand the angst of Pennsylvania. New Hampshire doesn't use their small, commercial striped bass quota either.

But I think looking at this in its entirety; and thinking about it in a compromised situation, and how without doing it this way maybe the 220,000 metric tons was a fairer target. That was my thinking in this whole process; starting with the 216. I hope the states will consider that approach to this and support it.

CHAIRMAN BALLOU: Toni Kerns, could you take a crack at answering Robert Boyles' question; which as I understood it was whether there is any precedent for an approach like this with regard to any other FMP that involves state-by-state allocation? Robert is involved in a sidebar right now; so hold on that Toni. I'll come back to you; because I want to make sure Robert's focused. Adam Nowalsky, you're next.

MR. NOWALSKY: I see this motion as having two relevant parts that we're discussing; one is the element of opting out, and being able to redistribute that to states that may need or want it. The second element of this is this opt-in provision which forces states, in my opinion, to demonstrate the intent to use their quota and if not, a sense that it would be taken from them without their consent.

That gives me trouble; and I hear that concern from some other members around the Board here as well, both in terms of how it might impact other species, precedent setting et cetera. I'm going to make a motion to substitute, Mr. Chairman. I believe it's going to include a number of these terms, so maybe

staff just wants to start with cut and pasting. I'll go along here with it.

My motion to substitute is: at the start of each fishing year and no later than January 31st, states may declare if they want to opt-out of the fixed minimum program. States, do you want me to just read the whole thing or just let staff go along with me and read as it comes up on the board?

MS. KERNS: Adam, do you have it on a piece of paper or no?

MR. NOWALSKY: I can come up there and give it to you if you would like.

MS. KERNS: You can read it into the record; and then if you could just come up and help us get it up on the screen appropriately.

MR. NOWALSKY: That would be fine. At the start of each fishing year and no later than January 31st, states may declare if they want to opt out of the fixed minimum program. States may declare if they have the option, and decline their fixed minimum allocation or maintain 10,000 pounds for bycatch purposes, and to decline the remainder of the quota.

If a jurisdiction declines its full allocation, it must identify the amount they do not wish to receive. Any quota that is not received by a state is redistributed to the other jurisdictions based on historic landings from the time period selected. Essentially what I'm doing is removing the requirements for opting in; and focusing on opt out entirely.

CHAIRMAN BALLOU: Let's do this. The Board will be at ease for five minutes as we get that motion up on the board.

MR. NOWALSKY: I think a lot of people want to take the break; but it's pretty darn close with what's up there.

CHAIRMAN BALLOU: We'll take a five minute break; just to get this motion up, and then we'll pick up right where we left off, starting with is there a second to the motion.

(Whereupon a recess was taken.)

CHAIRMAN BALLOU: I would like to resume; and I would like to go back to Adam to first ensure that the motion he has up is accurate, in terms of what he intends. Then I am going to see if there is a second. Then I'm going to allow Adam to speak to it, and then I'm going to allow. I'm sorry; I'm getting ahead of myself. Let's just stop right there. Adam, is this the motion you would like to make with regard to the wording that's up on the board right now?

MR. NOWALSKY: With a nod of great thanks to staff, yes it is. Would you like me to reread it at this point?

CHAIRMAN BALLOU: Please do.

**MR. NOWALSKY: Move to substitute that "at the start of each fishing year and no later than January 31st, states may declare if they want to opt out of the fixed-minimum program. States may declare to opt out of the program and decline their fixed-minimum allocation, or maintain 10,000 pounds for bycatch purposes and decline the remainder of their quota.**

**If a jurisdiction declines its full allocation, it must specifically identify the amount they do not wish to receive. Any quota that is not received by a state is redistributed to the other jurisdictions; based on historic landings from the time period selected by the Board in this Amendment."**

CHAIRMAN BALLOU: Is there a second to that motion? Dr. Duval seconds the motion; so the motion has been made and seconded, and Adam I'll go to you first to have you speak to it. Then I have some thoughts about some public input on this.

MR. NOWALSKY: First let me identify what is different about this with regards to what already exists in the draft amendment; the specific language with Option C. This includes more specificity in two areas. One, it provides the specificity of the date by which this declaration needs to occur; and two, it provides the specificity of what would happen to that quota that is not utilized by individual states. The draft amendment is silent on what occurs right now. This specifically lays that out through the last sentence.

This issue of fixed minimum is a bit of a difficult one; because essentially what we're doing is taking fish that states have had historical allocations of, historical use, and saying we're making a unilateral decision to hand it out, essentially. That is a tough pill. If it is the intent of the Board; as the original motion did, to force states to prove that they can use those fish.

Then I would say that that whole fixed-minimum approach is flawed, and that we as a Board should go back and reconsider it. But if that is in fact the decision that we're making that we're going to go down that road; then to go ahead and put the requirement on those states to say and oh by the way. Even though we decided to give it to you, if you can't show we're going to use it we're going to take it back; that is even more flawed, and I can't support that. That is my justification for this motion to substitute.

CHAIRMAN BALLOU: Because both this substitute motion and the main motion, which addressed the issue of we'll call it opt-in versus opt-out lend a lot of specificity with regard to the provision that was only set forth in the amendment in general terms. I'm going to allow some public input on this.

But it really needs to be specific to the issue before the Board right now on opt-in versus opt-out. Is there anyone from the public who would like to address the Board on either the main or substitute motion? I see two hands;

and I'll go first to the gentleman approaching the microphone. Thank you. Could you please introduce yourself?

MR. MONTY DEIHL: Thank you, Mr. Chairman, Monty Diehl from Omega Protein. If my math is correct, did it on my phone in the back. I just witnessed the Board vote for about an 8 percent increase in the overall TAC because of the health of the stock and how well it's doing; and in fact some argued that it could have been raised much more.

But based on this motion, again we could probably ask staff for clarification. It essentially means about an 8 to 10 percent reduction for Virginia; in Virginia's harvest from this year. For me that's laying off a lot of people from work. It even means now I have assets that I no longer need. Should I go to a state who I've heard around the table saying they want to grow an industry, they want to build an industry?

Do I now need to go and try to sell vessels, sell equipment, and even maybe barter labor to those states to grow something on the backs of people who have been doing this, like mine, for five generations? I can't even believe what I hear; I honestly can't. It also completely changes the mix, the supply and demand mix.

I'm not in the bait market. But it completely changes the supply and demand mix for bait; because you're now taking fish that had been used for reduction and not on the bait market, and you're moving millions and millions of pounds of those into the bait market, and you have industries, bait industries who have built again for many, many generations to build up a business. Now they're going to compete in a flooded bait market. I don't know if that's even being considered here. But I just wanted to point that out. From a Virginia standpoint, from a taxpayer in Virginia standpoint, and from a very large employer who represents an awful lot of people, this is not going in a very good direction. Thank you, Mr. Chairman.

CHAIRMAN BALLOU: Thank you, is there anyone else who would like to address the Board? Yes, sir.

MR. JEFF REICHLE: Thank you, Mr. Chairman, Jeff Reichle from Lunds Fisheries. Yes, I would like to echo a lot of what Monty just said; and just say that what I've seen happen today has totally destroyed what I understand fishery management to be. For the most part, fisheries have always been managed and allocated based on history and recency; and that was completely thrown out the window today.

You know there are a couple states that have history; recent history and history going way back. What you've basically done today is done a total reallocation to other states. If that stands, then I do not agree with this amendment. I think I agree with the original motion, so that we have the opportunity to get some of the quota that has been taken from us for no good reason back. Thank you.

CHAIRMAN BALLOU: Yes sir, in the back. If there is anyone else would like to speak, please come forward and be ready to take the microphone. I don't see any other hands up; but I just want to move on after this. Thank you.

MR. JIMMY KELLUM: Jimmy Kellum; from Virginia. My company is Kellum Maritime; we fish for bait and for reduction, and sell to Omega. I appreciate what Adam is trying to do here; but this doesn't fix the fact that we just transferred 301,000 bushels from reduction to bait. Do you have any idea what that is going to do to the bait industry?

The bait industry will collapse; based on what we've done in the last hour. This doesn't fix what we've done. We need to go backwards and say, we made a serious mistake here, because we have made a mistake. We have pillaged New Jersey and Virginia; on the theory that some other states may establish a bait business. I'm on the AP Committee, and they'll

tell you I was all in favor of the four states getting more quota, but not to this degree. We need to rethink this. Thank you.

CHAIRMAN BALLOU: Thank you very much for those comments; one last comment, thank you.

MR. A. J. ERSKINE: My name is A.J. Erskine; I'm with Mid-Atlantic Bait in Virginia. I agree with the previous comments. I disagree with this amendment. I think we did make a mistake with the fixed minimum. We are talking about economically changing the bait market drastically; so we're opposed.

CHAIRMAN BALLOU: Thank you, so now I would like to go back to the Board for comments on this motion to substitute. I had four names that were already in queue; and I'm just going to go right through those to see if they would like to speak on the substitute motion, starting with Cheri Patterson.

MS. PATTERSON: Ritchie covered what I was going to say, thank you.

CHAIRMAN BALLOU: Colleen Giannini.

MS. GIANNINI: I was looking for just some confirmation on Pat's original motion; that a state's decision to opt in and then subsequent declaration for the amount of quota it would like in that year, wouldn't be affected in subsequent years.

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: Correct, it would be an annual decision by the state.

MS. GIANNINI: Okay, and then just a quick follow up, I guess just a comment in this. I think that this motion here that Adam has up, I think it could be maybe a lot simpler, and I don't know if it would work better just to simply end that states may declare to opt out of the program and decline their fixed minimum

allocation, and not necessarily have to have a 10,000 pound for bycatch purpose in there.

CHAIRMAN BALLOU: Duly noted. Next I have Rob O'Reilly.

MR. O'REILLY: Certainly the speakers from the public, I certainly echo what they have to say from Virginia. I do think that there was a mistake earlier on; and you know it's too late in one way. The 220,000 metric tons would have solved some of these problems, and we could have gotten away from the fixed minimum that I've talked about a couple of times, as to what the ramifications and repercussions will be from that.

I don't really think that making a situation like this more palatable is something that we should avoid. I think we should try and do that. I've been hearing making certain states whole; although, and I don't take any offense at all. I did hear Ritchie White say, but maybe we don't have to make them whole.

But clearly, we need to be a little more careful about what we're doing. I see what's up on the board, and no disrespect to Pat or to Adam, I see it as a contrivance. I see it as an outfall of having not thought through some of the decisions that we made. I can't support it; and I regret that we didn't make some earlier decisions that maybe wouldn't get us in this place.

If I look across the table at New Jersey, I see their workforce diminishing; if I think of Virginia, our workforce diminishing. I mean how many things can we add on to our lives in the states that we have to monitor and keep sacred; when we don't need to start doing that and we shouldn't have started doing this on this situation. It was fixable earlier on.

CHAIRMAN BALLOU: Nichola Meserve.

MS. MESERVE: I prefer the initial motion to this substitute. The purpose of the reallocation

option that we selected was to meet the needs of more states for their commercial fisheries; and allocating 3.5 million pounds to a state without a fishery runs counter to that objective. For consistency purposes, I think we need to look at that objective when it comes to this motion as well. ASMFC does have a long-held practice; I guess I would call it, of allowing states to be more conservative than the requirements. But I don't think that that has normally come at the disadvantage to other states, and that is what the initial motion was trying to address in some part. I don't support the substitute.

CHAIRMAN BALLOU: Toni Kerns, did you have something you wanted to add?

MS. KERNS: Just for clarification. The first two sentences are sort of in opposition of each other here in the motion; because the first one says you can declare to opt out and decline all of your allocation or maintain just the 10,000 pounds. But then the second sentence says if a jurisdiction declines its full amount it must specify the amount that they don't wish to receive.

I think if a state wanted to keep part of the allocation, you could just say states may declare to opt out of the program and decline all or part of their fixed minimum, instead of restricting it to just being able to keep 10,000 pounds. Does that make sense, Adam? Do you see where I'm thinking the two sentences may go against each other?

CHAIRMAN BALLOU: I do believe I see your point. Adam, do you want to speak to that?

MR. NOWALSKY: Your suggestion would be to remove the "or maintain 10,000 pounds through the period?"

MS. KERNS: Yes, if that is the intention yes; but also say decline all or part of your fixed minimum, so it allows the state to determine what is being declined. If they want to keep



half, then they can still keep half. If that is what your intention was here.

MR. NOWALSKY: My intention is definitely to allow states to choose the portion they wish to decline; so I'll leave it up to the discretion of staff and the Chair whether having that information on the record is sufficient, or if they have word smithing they would like to offer.

CHAIRMAN BALLOU: I believe staff is undertaking word smithing. Let's see if we can get it to a point that would comport with your intent, Adam.

MR. NOWALSKY: I have no objection to how it's being modified pending the final result.

CHAIRMAN BALLOU: Let's read back into the record where this motion now stands as amended. Move to substitute that at the start of each fishing year and no later than January 31st; states may declare if they want to opt-out of the fixed minimum program. States may declare to opt-out of the program and decline all or part of their fixed minimum allocation.

If a jurisdiction declines part of their allocation it must specifically identify the amount they do not wish to receive. Any quota that is not received by a state is redistributed to the other jurisdictions based on historic landings from the time-period selected by the Board in this Amendment. Adam, does that meet with your intent?

MR. NOWALSKY: Yes, thank you.

CHAIRMAN BALLOU: Is there any objection from the Board to modifying the motion as now written? Seeing no objection that change has been accepted and the motion stands as it does; further discussion on the motion, Doug Brady.

MR. BRADY: I'm trying to get my arms around this motion versus the prior motion; and I guess I'll direct the question to maybe Robert Boyles

in the case of maybe South Carolina. The language in the prior motion dealing with the intent and the ability to demonstrate that you can harvest your quota that's allocated, if that one passed South Carolina has no, I mean there are states that have nothing in the regulations that allow them to do that. Obviously they could pass things.

Would by default South Carolina automatically give up their quota; because they don't have anything in place to show intent or ability to harvest? Under this motion, all the states can for whatever reasons just say we're not going to opt out; we're just not going to opt out, and therefore we'll keep out quota to do whatever we want to with it.

Under the prior motion, some states that don't have a fishery at the present, by default would not get their quota. Do you understand what I'm trying to? I think from what was said at the public comment, the concern may be that under this provision it's just so easy to take quota that is not going to be utilized, or negotiated in other ways.

But it penalizes potentially severely the states that are getting less of a quota by what we're doing by the 75 or the three-quarter percent. But Robert, I would just ask you that. Did you read the first motion to say by default that if that one passed that South Carolina would not get any quota? Do you follow my question?

CHAIRMAN BALLOU: Robert, it's your call as to whether you feel like you want to respond to that or not.

MR. BOYLES: I think what our particular situation is, to answer Doug's question, is the gear that would process menhaden is unlawful in South Carolina, outlawed by the Legislature years ago, nothing to say that a processor couldn't fish federal waters, if the fish were there. For instance, we don't have the processing capacity necessarily. Not to say that it couldn't develop. Doug, I'm not sure if that

answers your question; but that is kind of where we are in South Carolina.

CHAIRMAN BALLOU: Let's leave that one there for now and circle back if need be. Loren Lustig.

MR. LUSTIG: I will be brief. With my new found skills for word smithing, I would like to thank Ritchie White for reminding us of the benefits of compromise. If we dig in our heels there is going to be plenty of blood on the floor all around the table. I'm in favor of compromise. The gentleman who just spoke from Lund Fisheries reminded us of the importance of history. I was a history major in college. I understand history. If I was to choose a historic date to hearken back to, it would be the famous voyage of Captain John Smith in the Chesapeake. All right that is the date I would like to use as a baseline.

CHAIRMAN BALLOU: Senator Miner.

SENATOR MINER: The word "may" says to me that we may not need any of this language at all; either in the original motion, which would be 18 or 19. What this does in my view is changes an allocation from currency, which it is under the original what's been passed so far, 216,000 metric tons to a non-currency, because it automatically goes back to the Board for reallocation.

From a state's rights perspective, it seems to me that I would want Connecticut to have this allocation as a currency. It may very well be that we could choose to transfer it. But my read of this is that by making the declaration to opt out of the program, we devalue that currency. It automatically goes back into the pool.

I don't know what state would actually do that; and therefore that goes to my question of why do we even need either one of these? I understand the original intent of the original motion; which was try to set that base number as low as possible, and create a feeling that for

those states that were harmed in this redistribution process, there was some mechanism to get it back.

But I would suggest that the state of Connecticut could still enter into an agreement with the state of Virginia or the state of New Jersey to redistribute our allocation in the form of currency back to one of those states, should we choose to do it, without either of these motions. I'm probably inclined not to support either one of them.

CHAIRMAN BALLOU: I think it is a very good time to remind the Board that the amendment right now has a specific provision addressing this issue; which would be changed by either of these motions. Let's just say for the sake of discussion, neither of these motions passed. The default would be the following.

Should a jurisdiction desire to forego the fixed-minimum quota it has been allocated, it may on an annual basis choose to decline its quota completely, or maintain 10,000 pounds for bycatch purposes, and decline the remainder of the quota. Quota which is relinquished by the states will be redistributed to the other jurisdictions.

Should a state choose to relinquish its annual quota, the Commission must be notified through the Annual Compliance Report process. I just want to make it clear that that is what the amendment currently says with regard to the allocation method that's already been adopted. These motions seek to tweak that, change that, and modify it. Eric Reid.

MR. REID: I just want some clarification. Mr. Keliher's original motion had two other portions in it. Are those two other portions still in play in this?

CHAIRMAN BALLOU: I'm going to have Megan answer it.

MS. WARE: I don't believe so. But I would look to the maker of the motion to clarify that.

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: Because this is a motion to substitute, I don't believe that would be the case. I think this would completely replace my motion.

CHAIRMAN BALLOU: We have that now on the record. David Borden.

MR. BORDEN: I would just like to go back to the point that you made about the language in the document; and just remind everybody of what Ritchie White pointed out, and I thought it was a good example of how the mechanism would work. If the state of New Hampshire has a herring fishery that's taking place, and they need for the sake of argument 400,000 pounds of menhaden, in order to eliminate the bycatch and regulatory discards.

They would have the option of selecting 400,000 pounds. I don't think the state of New Hampshire wants to have a directed fishery. I don't think it may necessarily, and this is my read, but they would like the opportunity to select a number above 10,000 pounds so that they could eliminate bycatch. I just remind everybody of that. This system doesn't work very well when we promote regulatory discards. But I think there is a lot of merit in what Ritchie said before.

CHAIRMAN BALLOU: Any further discussion on the motion to substitute; David Bush and then Dr. Duval?

MR. BUSH: I'm glad you let me go first; because I can never follow her. She's a tough act, right? I'm still wading through this and there are a lot of different things that could happen from this. Now in my mind, and it may be different for some folks, but we've achieved our conservatory effect by the overall TAC that we put into place.

What the original motion in my mind would do, although the dates is something that I would question, would be to make states actively pursue their catch, and if they are not going to or can't demonstrate that they can, then that puts it back into play for everybody else. That doesn't mean that say North Carolina is going to come up the Potomac River and start fishing for menhaden.

But the overall quota itself has already accounted for the conservatory hopes that we want to achieve here. Again, I'm sort of trying to walk my way through this. In my mind I would think that maybe the first motion would be something to maybe take a little bit of the sting out of the initial cut that we already had. Again, I'm sure I'll learn more before we get done here.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: I seconded the motion for purposes of discussion. I think it's been very robust; and I really appreciate the public comment, and I appreciate what Adam was trying to do, in terms of I guess providing some assurance to states. But I also hear that the previous motion would actually provide more assurance of making certain that the quota that is available is available to those areas that actually need it. I appreciate what Adam was going to try to do, but I think I'm actually not going to support the substitute motion based on the public comments.

CHAIRMAN BALLOU: I echo the comment just made that we've had a robust discussion; and I'm going to take that as a queue to call the question. With that 30 second caucus and then we'll vote on the motion to substitute. Okay, I'm going to call the question. All in favor of the motion to substitute please raise your hand.

**Hands down, all opposed please raise your hand; thank you, any null votes, any abstention? There are two. The motion fails 2 to 14 with two abstentions.** We're back to the

main motion and after Max catches up, we'll put that back up on the board. Is there any further discussion on this main motion? John Clark.

MR. CLARK: I'm sorry to keep coming back, but the intent of this is to put it on the states that this fixed minimum is much more than most states will use. A state would have to actually state early in the year that they are going to use what they get; and if not, it automatically goes back into the pool to be redistributed.

Obviously from the concerns that were brought up by the public, this would have to be done in a very timely manner. Do we need to have more details in this motion, or do we need to further specify how we are going to reallocate unused, fixed minimum quota from these states?

CHAIRMAN BALLOU: I think the motion is quite detailed and quite clear on that; but I'll look to other Board members to see if they feel a need for additional clarity. David Borden.

MR. BORDEN: To John's question. My read is slightly different here, and I think it's pretty explicit in the motion. If Delaware didn't need their full allocation, they could request any amount up to the full allocation. But that is up to the state of Delaware.

MR. CLARK: I get that Dave. I'm just saying, the fact is I could for whatever reason say I want the full 0.75 percent of the quota, and not get anywhere near that. Then it doesn't get reallocated; to me that is a real problem. Because we have enough quota that is being taken from Virginia and New Jersey; that if enough states did what I just said that reallocation wouldn't happen in a timely enough manner to help those fisheries catch. As with many states, we're dependent on those states to provide bait for our crab fishery and for other fisheries. This is a big question is how this is going to work.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: I think to John's point. You know the motion that we passed previously included the transfer provision. I think I would look to that to ensure that quota is available to be used. I mean I know that North Carolina this past year was approached by several states earlier, actually pretty early in the year to see if we might be able to transfer some of our quota to them, to alleviate the issue of an abundance of menhaden that they were encountering off their waters. I would hope that that transfer provision would be utilized in that situation.

MR. CLARK: Well transfers are voluntary. All I'm saying is I'm just giving a worse-case scenario here is that a state could take the minimum, not transfer it, and we would have problems in the fishery. That is the only reason I wanted to see more specific language.

CHAIRMAN BALLOU: Good exchange; any further discussion on the motion? Seeing none; is the Board ready. Does the Board need time to caucus? David Borden, one minute caucus. Yes, one minute caucus and then we'll vote on this main motion. Okay, is the Board ready for the question? I see some caucusing still going on. Now it looks like it is ending.

Okay, all in favor of the motion please raise your hand; thank you. Those opposed please raise your hand; thank you, null votes, abstentions, two. Robert.

MR. BOYLES: Mr. Chairman, a motion to recess please.

CHAIRMAN BALLOU: First we need to clarify the vote; because I think we may have missed one, so I am going to ask for a recount, because I think our math came our wrong here, so let's make sure we get this right. **Those in favor of the motion please raise your hand and keep them up; thank you. Those opposed please raise your hand; thank you. The motion fails 7 to 9 with two abstentions.** The request to

recess could be coupled with a lunch break. Are we at that point, Robert, or were you looking for something shorter term?

MR. BOYLES: That was my intent, yes sir.

CHAIRMAN BALLOU: Let's break for lunch, and Toni, what time do we want to reconvene, or Bob?

MS. KERNS: Let's reconvene at 1:00 p.m. please.

CHAIRMAN BALLOU: We will reconvene at 1:00 p.m.; enjoy your lunch, thank you.

(Whereupon a recess was taken.)

**\*MEETING IN PROGRESS**

**\*Apparently Mr. Boyles Moved to reconsider the allocation method and Mr. Miller seconded.**

MR. BORDEN: I would just ask Robert if he could provide us with a little bit of insight on where he wants to go with this.

CHAIRMAN BORDEN: Well, I think that's the second part. First is whether the Board feels comfortable bringing this motion back before the Board. Then I think Robert will have the opportunity to speak of how he may wish to subject it to reconsideration. I believe it's a two-part process, but I look to the Board for input on that. I see two hands. Adam Nowalsky.

MR. NOWALSKY: I believe because the original motion also included the two bullet points, and they were packaged together. I don't think we can just reconsider part of it. I understand that's the element we're looking to change. But I think we would be looking to reconsider that entirety of the motion.

Then once that's on the floor again, we would decide what else we were going to do. But I

believe that's what we would be looking at; including the rollover and transfer provision we would be reconsidering as part of one reconsideration.

CHAIRMAN BALLOU: I totally concur with that. It would be the full motion back before the Board; which can then be addressed in however way the Board would like to. Is there any further discussion on the motion to reconsider? Emerson Hasbrouck.

MR. HASBROUCK: We had quite an extensive debate and discussion around that issue this morning; that went on for an extended period of time. I don't know why we need to revisit it; but maybe that will come out in the debate about, if it is brought back to the floor. I'm just concerned. We had a significant discussion this morning. I think we beat it to death pretty well.

CHAIRMAN BALLOU: Understood. Ray Kane.

MR. KANE: To reconsider, are we going to need two-thirds? No.

CHAIRMAN BALLOU: Majority vote. Is there any further discussion on the motion; Dennis Abbott?

MR. ABBOTT: Going along with what Emerson said. Surely we had plenty of discussion; and we reached some decisions. Like anything else, I think that when you do something and it advantages someone, there is probably someone else that is going to be disadvantaged. Apparently, not apparently that is what the feeling is with a number of people here.

Well at some point we have to make decisions and live by them. It just seems unseemly to have made a decision an hour and a half ago, and already we can't live with it. With due respect to Mr. Boyles, who I know is trying to do the right thing as Robert does a lot, he tries to make sure that everybody leaves the table happy. Again, it's not going to happen. There is always displeasure with our decisions. We

surely spent enough time this morning making a tough decision. I think that we should not reconsider and move along with our agenda.

CHAIRMAN BALLOU: Dave Bush.

MR. BUSH: Very briefly. I sat here while I watched quite a bit of folks skip lunch; folks that were on both the winning and losing sides working towards the middle, which I believe was the ultimate goal, not necessarily just the process for the sake of the process but an outcome we can all live with. I would certainly be in favor of hearing further discussion, if we can make this something that works for everyone.

CHAIRMAN BALLOU: Any further discussion on the motion to reconsider? Loren Lustig.

MR. LUSTIG: Just before you reconvened the meeting, I was speaking to my wife, Louise, and she said well when is the meeting supposed to be over? I said Louise, it's supposed to be over at 6:00 p.m. but it would not surprise me, since we're talking about the bottom line that I might be here until 9:00 or whenever. I agree with what I've heard around the table here. Sometimes long discussions sort of just overwhelm me. This is too important to sort of give it short shrift.

CHAIRMAN BALLOU: Any further discussion on the motion. Seeing none; is the Board ready for the question? Is there any need to caucus; a 30 second caucus? Okay, I'm going to call the question. **All in favor of the move to reconsider the allocation method please raise your hand, thank you. Those opposed please raise your hand, thank you. Are there any null votes, any abstentions? The motion passes 11 to 7; which means the motion is now back before the Board for consideration.** Robert Boyles.

MR. BOYLES: Thank you, good discussion and I agree; we'll try not to belabor this. My quote from Dr. Franklin, please, "For having lived long,

I have experienced many instances of being obliged by better information or fuller consideration, to change opinions even on important subjects, which I once thought right but found to be otherwise. It is therefore that the older I grow, the more apt I am to doubt my own judgment, and to pay more respect to the judgment of others." Having said that Mr. Chairman, I'm reminded that being a guy from South Carolina; we know something about state's rights. We know something about public trust resource management; and it is very much my intention that we have a durable outcome as a result of our deliberations here today, and as we move forward with the implementation of the Amendment.

Let me be blunt. I think it's important that we all have something that we can live with; that we can go home with and say we've done our level best to be good stewards of our resources, good stewards of the trust that is given to us by our constituents, and in fact good stewards of the authority under which we are operating.

I'm concerned with my seatmate here Dr. Rhodes' comment referencing the Hippocratic Oath earlier that we might have jumped a little too quickly earlier today. Clearly there are allocations; very, very difficult issues associated with allocation. I have a new motion I would like to make that is up on the board.

If the Board will indulge me in it I will read it; and I think you will find that this is – fairness and equity are in the eye of the beholder – I think it's important that we do our level best to bring everyone along that we don't lose sight of the prize here. I think, Mr. Chairman, when I was sitting in your seat I suggested to the Board that this was a great big allocation amendment.

The first order question is how much do we leave in the water. I spoke to that issue yesterday. I won't revisit that in terms of reference points. But I think it's important for the good of the cause. I think it's important for the commitment that the states made in 1942,

when we were a little distracted with global events that there is more to be gained by cooperating and remaining committed to one another than by going it alone.

It is within that spirit that I offer this motion. **I would move to select Allocation Method Option C, a jurisdictional allocation with a fixed minimum with a 0.5 percent fixed minimum and the allocation timeframe 2009-2011. I would also move that we include incidental catch and small-scale fisheries Option B, modified to include purse seine smaller than 150 fathoms long by 8 fathom deep would be considered small scale gear, and episodic events Option A, with the 1 percent set aside. If I get a second, I'll explain further.**

CHAIRMAN BALLOU: Is there a second to the motion; seconded by Dave Bush? Moved and seconded to move this sort of three-part motion. Before I go to the Board for questions, Robert I would ask you. With regard to the motion that this is intended to replace, the motion that it would replace addressed transfers and rollovers, I believe. What is your intent with regard to those issues with this new motion?

MR. BOYLES: With the intent of transfers. My intent quite frankly, Mr. Chairman, as a state with no landings history, with no fishery that we would be prepared to contribute our share to be able to transfer that perhaps to the episodic events set aside, to bump up that number, to take into account the interest of those brethren along the northern coast. Also that would be available for transfer to other jurisdictions that may have overages.

CHAIRMAN BALLOU: If I might; just to make it clear. Is your intent to modify at all the prior decision made by the Board; with regard to allowing for transfers but not allowing for rollover? I believe those were the two key aspects of the prior motion.

MR. BOYLES: Yes sir, Mr. Chairman. Thank you for clarifying that. That is my intent.

CHAIRMAN BALLOU: I guess we might want to think about whether we need to wrap those into this motion or not. I'll just sort of leave that hanging for a moment; to make sure that we've got the full mix before us. If this is to substitute in full, it looks like staff is already doing that as I speak, so how about that.

I think what Max has just done, if I'm not mistaken, I'm doing this on the fly here is added back in the two provisions from the original motion addressing transfers and rollovers. This sort of augments this motion now by incorporating those in. Robert is this consistent with your intent.

MR. BOYLES: Yes sir, Mr. Chairman. I would give a shout out to staff over lunch. They did provide a table that reflects what the current allocation is on the far right hand side of the page; and what is contemplated in this motion is in the far left hand column with the 2009-2011 TAC. I believe that has been distributed. I believe.

CHAIRMAN BALLOU: I believe you're right; and with that I will open the floor to questions or comments on the motion, starting with Adam Nowalsky.

MR. NOWALSKY: I appreciate the comment about a willingness to redistribute some of that unused quota. We had the conversation earlier this morning about the language that is currently in the Draft Amendment not being explicit in how that redistribution would occur. With this motion, how do you propose to move forward with that redistribution? How would it actually occur?

CHAIRMAN BALLOU: I think staff is prepared to address it; unless Robert, you want to jump in. All right, Megan.

MS. WARE: There are kind of two ways we could do that. We could do a separate motion to provide clarity on that; and maybe use some of the language from your motion before, if you would like to do that or if you would like to make an amendment or a friendly amendment, I would ask Robert Boyles to add in that sentence that said it is redistributed based on the timeframe selected by the Board. Then that's up to you guys.

CHAIRMAN BALLOU: As Adam mulls over that and other Board members as well, I'll go to Andy Shiels.

MR. SHIELS: This may surprise everybody, including myself in the room. But I support this motion. The reason I do is because I was under the understanding, mistakenly on my part that when we were talking about this earlier today. At the three-quarter percent fixed minimum that the states that did not have quota were getting quota, and Maryland and Virginia were unchanged. I was incorrect. When I found out that it was a half percent that's what I intended, sitting around the table.

I did not want to bring harm to Virginia or North Carolina, when the most important thing was a very modest increase of the total allowable catch.

Within that modest increase, the other states get an opportunity to fish. We argued back and forth whether Pennsylvania does or South Carolina will or will not prosecute that.

But I did not feel good about that as we left the room. I'm glad that somebody else brought it up. I do not prefer an alternative approach where we raise the TAC to provide this room. I think this is the right approach. I think Maryland and Virginia roughly stay the same. The other states get the benefit, a fishery that they didn't have in the recent past, and so I support this motion.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: Thank you, Robert for bringing this forward, and I know several of you have been diligently trying to think of a little improvement. Sometimes when we do get involved in something that has so many layers, it is difficult to keep everything in mind. Andy, I think you're right. I think that it was quite a difference earlier with the way things were with the 0.75 fixed minimum compared to this, which is like about a 0.5 percent increase for Virginia.

I still don't know how all of this settles out. I mean you've heard this before, but the agency I work for really has very little to do with management of menhaden. It's the General Assembly that manages menhaden; and Senator Richard Stuart, who is a member of this Commission, and is also an attorney, sent a letter to the Commission and he really was somewhat critical, but on the fixed minimum especially.

He really questioned that if it was not illegal it certainly was inequitable and unjust, where there could possibly be horse trading of quotas. I think we've addressed that a lot before lunch; and wanting a method that that cannot happen. This is a big improvement. I do appreciate it; and so thank you for the time.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: Yes, I am supportive of what Robert is trying to do and reconsider, and do no harm here, and try to find the most equitable approach for everyone sitting around the table. I guess the concern that I have is with the Section 4.3.5 Option B, the incidental catch and small scale fisheries. Those harvests would not be counted towards the TAC under that option. Is that the intent?

CHAIRMAN BALLOU: I was having a sidebar, I'm sorry. If you could restate the question or maybe if somebody is ready to answer it. I missed it, I'm sorry.



DR. DUVAL: The motion on the board under Section 4.3.5, Incidental Catch and Small Scale Fisheries, Option B; under that option incidental catch does not count towards the TAC. I just wanted it clarified if that was the intent, to not have that catch count against the TAC.

MS. WARE: It is correct that that option does not count incidental catch towards the TAC.

CHAIRMAN BALLOU: Thank you, and my apologies for not following along. Additional comments on the motion. Emerson Hasbrouck.

MR. HASBROUCK: I'm a little confused here; in terms of proceeding under episodic events. I thought I heard the maker of the motion say something about discussing episodic events under that separate category. Is that not true, or does this motion take care of whatever we need to do under episodic events?

CHAIRMAN BALLOU: Well, I'll certainly let the speaker address that issue; but my take is this is addressing episodic events. I see the maker nodding in the affirmative; so that is the intent of the motion, to address episodic events among other things, additional discussion, Russ Allen.

MR. ALLEN: I'm not totally enthralled with this motion; but I see that there is a lot of work behind it to get it to where it needs to be. I'm having a hard time supporting it; but I'm as Rob said, real pleased that we're all working together on this to try to make it work for everyone. We already made half our constituents ticked off when we were doing certain things on this; and this will probably tick off the rest of them. I think this may end up being a best way forward; because I don't have a solution after this.

CHAIRMAN BALLOU: Yes, John Clark.

MR. CLARK: I'm just a little concerned about the allocation method here again. Once again we're allocating a large amount of quota to

states that have not fished it, will not fish it. It just seems very inefficient. I think there has got to be better ways; and I thought I heard some discussed earlier that we could use, rather than going with this fixed minimum.

CHAIRMAN BALLOU: Nichola Meserve.

MS. MESERVE: I have the same concern as Dr. Duval with the Option B for the incidental catch and small scale fisheries; and it not counting towards the TAC, and also including small purse seines in that category now. It was also my hope with our initial selection of the 0.75 percent fixed minimums that we would be able to do away with the episodic event program; and the bycatch, what many people have referred to as a loophole, over the years. We're moving away from that direction here; so I can't support this motion.

CHAIRMAN BALLOU: Just for the Board's edification. My understanding is Option B as proposed under incidental catch and small scale fisheries, would not only now include purse seines as characterized, but would also include trawls, which was an issue brought up by the Advisory Panel. I just want to make sure the Board is clear that those would be gear types that would be allowed to fish; and that those landings in total would not be counted against the TAC, just to make sure we're all on the same page on this. I have Robert Boyles next.

MR. BOYLES: Again, thank you to the Board for indulging the discussion. I think the number of you I've talked to over the previous several months. Let me blunt and honest. There are a lot of things in the motion I just made that I don't like. I just don't like it. I won't be specific. I've talked to a number of you. I think you know what those things are.

I'm going to go back and tell you again; as a guy with no commodity in this fight. My interest is in the integrity and this body and this process. This body and this process that was tested this summer; and this body and this process that I

think we're on notice, will be tested as a result of the actions that we take today.

I'm asking the Board's indulgence. There are things in here I don't like; make no mistake. But I think in the spirit and the interest of moving us forward, and not losing sight of the big prize; in my mind ecosystem reference points. That I think it's worth some give and take. It's perhaps a little bit of Frankenstein; in terms of a motion.

But I think if you look at the table, most jurisdictions end up better off than they are under the current allocation. I think we have sent a strong message with setting the TAC at 216,000 metric tons, to those folks who were gravely disappointed with our actions yesterday, with respect to our commitment to ecosystem reference points.

I think this is something; I would hope that this is something that the Board, perhaps more importantly the member states of our Commission, could live with as we move forward the development of ecosystem reference points. I would urge your consideration and urge your passage.

CHAIRMAN BALLOU: Eric Reid.

MR. REID: I'm a little bit concerned about Option B not accounting for small-scale fisheries. I have a question about the size of the purse seines that are in this fishery. We don't have a lot of purse seining in Rhode Island; but I know you do in Maine, and there is in Massachusetts as well.

Would a purse seine of this size fall – how many purse seiners do you have that use a net smaller than 150 by 8? I'm also concerned about episodic event being only 1 percent; if we go to a half a percent fixed minimum. I guess my real question is about how much purse seine gear would fit into this category of not being considered or accounted for? Maybe somebody else could answer that.

CHAIRMAN BALLOU: I was just going to say, who might be best able to address that and I see Pat Keliher's hand up. Pat.

MR. KELIHER: The purse seines that are used in our fisheries right now are vastly larger than what is here. This would put a cap on the upper end size of a purse seine that would be able to be used. The fishery, we had a lot of people who are harvesting 6,000 pounds a day with purse seines that are twice this size.

They were doing that without a lot of spillage that was going over dead. We only one incidence of mortality associated with our fishery; with much larger seines. But the intent of that was to try to get the overall size under control; with the understanding that this is the language within Option B, which isn't here. This is for the 6,000 pound daily allocation. There is about 20-ish, could be more, and could be as many as 30 that will participate.

CHAIRMAN BALLOU: Ritchie White.

MR. WHITE: Pat just answered my question; and that is that this would be limited to 6,000 pounds a day.

CHAIRMAN BALLOU: Yes that's correct. Jim Gilmore.

MR. GILMORE: I'm just going to throw in, echo what Robert was speaking about. There are a lot of things I don't like in this reconsideration. But I think what we all need to keep in mind is as we move forward; I mean allocations is going to be our challenge for several species as we move forward over the next couple years.

We're getting into maybe even I walked in the room this morning, and what I want versus what I need. In terms of the Commission and our guiding principles, we really need to look at cooperating, in terms of what our needs are, so that we can be functional as we move forward. It's easy to dig your heels in and maybe try to get what you can get out of the pie. But right

now we really need to keep in the back of our minds is that we need to stick with those principles of the Commission, and really find a solution that keeps everyone's fishery viable.

That's probably the best term I can use. Other species that I won't mention right now, which we'll be talking about in a few months. It's really to have viable fisheries for all the states; and to cooperate the best we can to make that happen. As Robert said and I agree, there are things in here I don't like, but I support the motion, because I think it is what moves us forward in a cooperative fashion.

CHAIRMAN BALLOU: Steve Train.

MR. TRAIN: Like many that spoke already. If I had to pick this apart individually, I could probably find each item I don't like individually. But the quota allotment is obviously not enough to keep the Maine fishermen happy; if that was what we were working on. But when you tie all of these together, I think we can live with it and I can support the motion. But if we pull things out of it, I can't.

CHAIRMAN BALLOU: Emerson Hasbrouck.

MR. HASBROUCK: I pass, Mr. Chairman.

CHAIRMAN BALLOU: Pat Keliher. Is there anyone else on the Board who would like to address the motion; David Borden?

MR. BORDEN: Although I appreciate Robert's attempt here; I have problems with any portion of the landings not counting towards the quota. I think that sends the wrong message. I would have no problems if that were characterized as the soft cap. But I think there has to be a cap. The other thing that I've been personally struggling here; and I think the Board has been struggling with.

I mean if you look at just fishery performance, and you can pick almost any timeline here recently. We have a whole group of states that

really haven't had any performance in their jurisdictions. This is one of the flaws with the state minimum. In other words, we're allocating fish to states that have not had any type of performance.

Now much to his credit, Robert has been talking about foregoing his share of the allocation, I don't know how we get there. But I think we need to have a dialogue with the states that don't have any performance, history of performance in the fishery. Somehow, if we can get more jurisdictions to do exactly what Robert offered up, I think that's kind of the way forward. That would free up allocation to fix some of these issues. As I said, I don't know how to do that. If we had more time to do it, we could have a focused discussion individually or collectively on how to get there. We've done that on other species; black sea bass a long time ago, we had that type of discussion, and it was a negotiation.

To the extent that states that have not landed a pound for the last couple years, they're going to be allocated 2 plus million pounds. If they could say oh, well we'll take 500,000 instead of 2 million. That would solve a lot of the problems we're trying to deal with. I don't know how to generate that dialogue; or whether we have the time to generate that dialogue. But that I think is the way out of this box.

CHAIRMAN BALLOU: Allison Colden.

DR. COLDEN: I'll pass Mr. Chair, thank you.

CHAIRMAN BALLOU: Tom Fote.

MR. FOTE: Since Dave brought up black sea bass and how we got around that is because New Jersey gave up 20 percent of its quota. Now when Bruce Freeman got back to New Jersey, there were not a lot of happy people there, because it was an arbitrary decision he made at the time. But that made the deal work then.

I don't see anybody sitting around this table wanting to give up 20 percent of their quota to help out, and try to make everybody happy. But that's how we got the black sea bass; by New Jersey stepping up to the table and giving up 20 percent of its quota.

CHAIRMAN BALLOU: Spud Woodward.

MR. WOODWARD: Just to get it on the record; in response to what Dave Borden said. The state of Georgia has no interest in prosecuting fisheries on its share of whatever we end up getting through these deliberations. I think if it will help the deliberations, you can certainly consider that our 2.6 million pounds is going to go wherever it can do the most good to help this situation. Since I'm going to be retiring at the end of December, I can make those kinds of promises, Tom.

CHAIRMAN BALLOU: Before I go back to David, anyone else who has not yet spoken. Cheri Patterson.

MS. PATTERSON: I could support everything here with the exception of Section 4.3.5. I think at least from our constituency and how most of us, some of us feel I should say, is that a lot of these ancillary numbers should be included in the TAC.

CHAIRMAN BALLOU: Roy Miller.

MR. MILLER: I would like to first express my appreciation to Robert; and all of the folks who worked on this issue since our lunch break. I'm very appreciative of the effort. Do I like all the details of this? I could quibble, like many others with individual points. I agree with Cheri, all catch including incidental catch in small scale fisheries I feel should go towards the quota. But in general, I'm in favor of this and am appreciative of the effort.

CHAIRMAN BALLOU: Marty Gary.

MR. GARY: I appreciate all the discussion and hard work that everybody put into coming to this motion on the table now. Just a quick comment about Section 4.3.5, I won't speak for Maryland, but they probably have similar sentiment. It's essential for PRFC. We have a small-scale fishery. We typically hit our quota late summer into early autumn; and we're very reliant on that bycatch to continue us through the season.

We worked really hard on our accountability. We have trip level daily reporting submitted weekly, not monthly. When we hit 70 percent we have a mandatory call in for our 20 pound netters, and then when we hit the 90 percent threshold, we then switch over to bycatch. We really put in a lot of hard work with our harvesters and our staff; and make sure the accountability is there. I just want to make sure that you all know that that is really, really important to us. We need that there.

CHAIRMAN BALLOU: David Borden.

MR. BORDEN: I would just like to go back again and complement Spud and Robert for their willingness to try to strike a bargain here by enhancing it. I guess my suggestion would be to kind of break the mold here, is to take like a two or three minute caucus, ask the states that basically do not have significant fisheries talk among themselves, and see whether or not there are other jurisdictions that would be willing to give up some portion of their allocation. My suggestion would be anything that's given up would either be redistributed or go into Section 4.3.6.

CHAIRMAN BALLOU: We'll take that into consideration after I get Dave Blazer; who's next up. Then we'll try to figure out where we want to go from here.

MR. BLAZER: Really, what Marty said about the incidental catch. That is extremely important to our fishermen in the state of Maryland. I do want to remind everybody that in the

management plan there is language in there. I won't read it verbatim, but basically that it's tracked.

If it becomes too much of a problem, it's too impactful that either that gear or trip reductions or other management measures can be taken as we follow that and learn that. There is some safety built in to that incidental catch for the small-scale fisheries. By the way, I'm supportive of this motion, even though it's not perfect for our situation. But again, I applaud the folks that helped put this together, and I'll be supporting it.

CHAIRMAN BALLOU: Dave Blazer. It's getting late, Dave Bush.

MR. BUSH: Although Mr. Blazer probably would like the opportunity to go again I guess. I don't know if it would be appropriate or not. We offered the opportunity, or you did, Mr. Chairman earlier for the public, one or two to weigh in on it, the original motion. Now this is a whole new grab bag, and those are the folks that we're trying to take care of. I don't know if maybe at your discretion, maybe a comment or two to see if this might be more livable.

CHAIRMAN BALLOU: It's a tough call. But I do feel that by and large this motion reflects provisions that are in the Amendment; and have already been subject to public comment. I am reluctant to open the door to additional comment; because I don't see this as being significantly different from what the options were as set forth in the Amendment.

That said; there is clearly interest. I think Adam Nowalsky expressed it, certainly David Borden did, and this issue of what happens under the fixed minimum program, which certainly the first part of this motion would enact. What happens when states relinquish their quota? It's to be redistributed, it says that.

But it does not say how it's to be redistributed. It's really up to the Board whether you want to

try to work through that issue question now, or potentially after a vote on this and coming back to it, or whether you just want to let it lay. It is what it is. I'll just sort of say that I sense that we're getting close to a vote.

But I'm aware that there have been a couple of points made regarding the implementation of the fixed minimum approach, particularly with regard to states that opt not to utilize their quota. I think there are two ways we could go; one would be to try to add on to this motion, the other would be to vote on this motion and then potentially circle back to that as a supplemental issue. I guess I'll take thoughts on that sort of piece; as well any other general comments.

I do sense we are approaching voting time, so I see three hands up. Let me go to the three hands that I see up; Nichola, Colleen, well we have four hands up. It sounds like there will be more discussion; as well there should be. This really is going to kind of be a big wrap, depending on the vote goes. Let's take the time we need to; to make sure we get it right. Nichola Meserve.

MS. MESERVE: I have now heard a number of Board members have concerns with the incidental catch and small-scale fishery Option B. There is also Option D in the document; which does provide the same 6,000 pound trip limit per day, or 12,000 pounds for the two permitted individuals on a vessel for the small-scale gears and the non-directed gears.

But those landings count towards the TAC and there is the 2 percent set aside. My question is actually for the maker of the motion; as to why, if there was a rationale for selecting Option B over Option D for the incidental catch, which would count the bycatch landings towards the TAC.

CHAIRMAN BALLOU: Robert.

MR. BOYLES: It was offered in the form of an effort to build consensus.

CHAIRMAN BALLOU: Colleen Giannini.

MS. GIANNINI: Hi, I'm generally in support of the motion. I have the same concerns about Section 4.3.5; and because the incidental catch in the small scale comes in after a jurisdiction's quota is met. I'm just trying to wrap my head around what that magnitude is, given the increase in allocations with a fixed 5 percent, minimum?

MS. WARE: I mean obviously we can't necessarily predict what those will be. But I can say that especially last year, as there have been increases in the TAC, the magnitude of those incidental catch landings does seem to be declining. I will say that. I'm not sure if that will apply for this year. But that was a trend that we've seen to date.

CHAIRMAN BALLOU: Rachel Dean.

MS. DEAN: I just wanted to say that 4.3.5 is where we get behind this motion. The timeframe, 2009 to 2011 makes us uncomfortable, makes me uncomfortable. I won't speak for everyone. The half percent fixed minimum does not by any means get us to where we need to be. I just want to echo what Mary Gary said about how essential this is. I understand that there is the concern that some states would be allocated something that they don't intend to use. But the incidental catch and small-scale fisheries would mitigate that and essentially give that back to the states that are intending to use it.

CHAIRMAN BALLOU: Pat Keliher.

MR. KELIHER: We started today with the setting of a quota, or the TAC, which I supported in the end, hoping we could find a way to cut up this pie. It's obviously proving very difficult. I did not think I would be in a position where my

fixed minimum was going to be half of what I was hoping it was going to get.

That being said, I am a reluctant supporter of this motion; assuming 4.3.5 remains in place, and I would urge the Board per David Borden's suggestion to take a pause and see where that exercise might get us regarding what jurisdictions, what state's might be willing to give up may help give us a clearer picture.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: We in Virginia also have a pound net fishery with quite a history; and of the seven gears that are involved in a quota, away from anything else, pound net is the one that is the largest. But it closes sort of without a pattern. It has been closed a couple of times since 2013; it has remained open.

You know there is a problem when it closes. I think we know with a fixed gear like that that discards are really not what we're aiming to do. I support the 4.3.5 provision. I also wanted to just ask Megan quickly on that magnitude question. Was it somewhere around 6 million pounds or something like that in one of those years for the bycatch? Does that ring a bell?

MS. WARE: Yes. I mean it sounds about right for the highest year; I believe was around 6 million. Then I can look it up, but I think last year was between 3 and 4 million.

MR. O'REILLY: Thank you, and if I may Mr. Chairman, based on last year that would be about 1.3 percent. Of course it's added on so it would be a little bit less; since it's not counting toward the TAC or towards the quota.

CHAIRMAN BALLOU: Steve Train.

MR. TRAIN: I wonder sometimes if everyone around the room remembers we've been working under what essentially is 4.3.5 from the beginning of this recent realm of management of menhaden. We've seen the stock continue to build; and it hasn't seemed to be an issue. I

don't know why it's a sticking point now. Almost every state I look at has used it. It kind of makes this work. Without it, Maine can't support this.

CHAIRMAN BALLOU: Let's do this; well first let me go to Adam, and then I have a suggestion for a pause. Adam.

MR. NOWALSKY: If I could wait until after that pause; I had an idea I was going to toss out. But I'll be happy to do it offline, and then decide whether it warrants online discussion.

CHAIRMAN BALLOU: Let's pause for the purpose of essentially caucusing on whether the Board is ready to vote when we return; or whether there is any interest in doing any further modifications to the motion. We'll be paused for five minutes; and I'll call the meeting back to order.

(Whereupon a recess was taken.)

CHAIRMAN BALLOU: Okay that was a long recess; but hopefully a productive one. There certainly was plenty of engagement around the table. I see a couple hands up. I know David Borden has something he would like to say; as well Dr. Duval. I'll go to Dr. Duval first.

DR. DUVAL: Again, this is in regards to Section 4.3.5, the incidental catch and small-scale fisheries. You know we support counting all catch against the TAC. I recognize that moving to Option D would give a lot of people discomfort due to the 2 percent that will come off the top, and the impacts that might have to different jurisdictions allocations. I did want to ask Megan.

You know we do have a table in the Draft Amendment that indicates that on average the incidental catch has come out to 4.7 million pounds. Now, I was hoping if Megan could clarify for us that when you take the incidental catch that has occurred under this existing provision, and then add it to the total landings

under the TAC. Have we exceeded the TAC in recent years?

MS. WARE: I've been doing a little research. Last year when we combined the directed landings and bycatch, we did not exceed the TAC. For the 2015 fishing year we did exceed it by 2 million pounds.

DR. DUVAL: Follow up, Mr. Chairman?

CHAIRMAN BALLOU: Sure.

DR. DUVAL: In 2015 the TAC was what?

MS. WARE: Approximately 414 million pounds.

DR. DUVAL: Okay. Thank you, I might have one more question.

CHAIRMAN BALLOU: Let me go to David Borden next.

MR. BORDEN: I will make this quick; and I kind of circled the table quickly. I mean we're trying to deal with two different problems here. One is in Section 4.3.6 the 1 percent. I had people say to me that they thought that percent was too low; and then this issue of 4.3.5 with the quota not counting.

I go back and reiterate, I'm not going to ask or put anybody on the spot, but if there are jurisdictions that would voluntarily contribute some portion of their minimum to those two activities; I think we could probably fix at least some of the issues we're trying to deal with.

CHAIRMAN BALLOU: Okay, additional comments if any; or is the Board ready for the question? It looks like the Board is ready for the question; and I'm going to take the long recess we just had as the caucus opportunity. Without further ado; I will call the question, and ask all in favor of this motion please raise your hand.

MR. NOWALSKY: Mr. Chairman.

CHAIRMAN BALLOU: Yes.

MS. WARE: Pennsylvania.

MR. NOWALSKY: I would like to request a roll call vote.

MR. SHIELS: Yes.

CHAIRMAN BALLOU: We shall do that; and I'll look to Megan, and we'll go south to north.

MS. WARE: New Jersey.

MR. ALLEN: No.

MS. WARE: U.S. Fish and Wildlife.

MS. WARE: New York.

MR. MILLARD: Abstain.

MR. GILMORE: Yes.

MS. WARE: NOAA Fisheries.

MS. WARE: Connecticut.

MR. BURNS: Abstain.

MS. GIANNINI: Yes.

MS. WARE: Florida.

MS. WARE: Rhode Island.

MR. ESTES: Yes.

MR. REID: No.

MS. WARE: Georgia.

MS. WARE: Massachusetts.

MR. WOODWARD: Yes.

MS. MESERVE: No.

MS. WARE: South Carolina.

MS. WARE: New Hampshire.

DR. RHODES: Yes.

MR. WHITE: Yes.

MS. WARE: North Carolina.

MS. WARE: Maine.

DR. DUVAL: Yes.

MR. KELIHER: Yes.

MS. WARE: Virginia.

CHAIRMAN BALLOU: **The motion passes 12 to 4 with 2 abstentions.** I believe we have perhaps just one issue left; Chesapeake Bay Reduction Cap if I'm not mistaken, because I believe this issue will essentially dispense with all of the other issues that were pending. Before I go to the Chesapeake Bay cap issue, I just want to make sure that the Board is comfortable with where we are.

MR. O'REILLY: No.

MS. WARE: Potomac River Fisheries Commission.

MR. GARY: Yes.

I should just say I assume the Board is comfortable with where we are; because otherwise we could get back into it. Seeing no hands; I will now seek a motion on the issue of the Chesapeake Bay cap. Maybe to fill this awkward gap, I'll ask Megan to review the

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Delaware.

MR. CLARK: Yes.



option. We'll see if that might help spur some interest.

MS. WARE: For the Chesapeake Bay cap there are three options. The Board can maintain the cap at the 87,216 metric tons, reduce the cap to 51,000 metric tons, or remove the cap, which means that there are no restrictions on the reduction fishery in the Chesapeake Bay. Then there are also sub-options which ask whether a portion of unused cap can be rolled over to the next year. Right now we do have a rollover provision; it's about 10,000 metric tons. I'll look that up for you guys; but right now we do allow a portion of that to roll over.

CHAIRMAN BALLOU: With that is there anyone on the Board who would like to make a motion? Rob O'Reilly.

**MR. O'REILLY: I'll make the motion for status quo for the Chesapeake Bay reduction fishery cap to be maintained at 87,216 metric tons. I'll have some explanation if I get a second.**

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Adam Nowalsky? Moved and seconded, Rob the floor is yours.

MR. O'REILLY: I understand those who have talked to me over the last few weeks, and talked about support for lowering this cap to 51,000 metric tons. I'm not sure they have all the information; but there are a few pieces of pertinent information. The first is that everyone knows that the reduction fishery has not been achieving the cap by quite a bit over the last, I would say five years.

The other pertinent piece of information is while we lowered everything; in terms of the fishery opportunities and quotas for 2013, starting in that season. We also lowered the cap from 109,000 plus metric tons are where it was starting in 2006. When there were increases, both in February of 2015 and also in 2017, almost a 10 percent and then a 6.4 percent increase in 2017.

The Bay cap remained unchanged. There were no calls to increase that Bay cap. I think probably we talked a lot about fair. I'm not going to say the equitable in this case; I'm just going to say fair. But a lot went into this cap. In 2006, it was set at the average of 2001 to 2005. I was at that meeting.

Every organization, whether NGO or not, was quite pleased that the cap of 109,000 plus metric tons was established. Given that type of information, I would not find it fair that we want to reduce; and some of the reasons behind wanting to reduce it really may serve as a bad situation for the idea that the reduction fishery has not been in the Bay, does not wish to be in the Bay when possible. But there is going to be a rainy day. When is the rainy day? Is the rainy day going to occur five years from now? It's sort of a penalty to lower this cap. Thank you for the time; and I hope for those who weren't involved back in 2006, and didn't watch the progression of this cap, because there was no progression after 2012 – it stayed the same – that they will appreciate my comments.

CHAIRMAN BALLOU: Just to clarify. You certainly implied this with your reference to status quo. Status quo would also involve Sub-option A under Option A; limited rollover of unused cap permitted up to 10,976 metric tons. Is that your intent?

MR. O'REILLY: That is correct; and again that was something that was worked out 11 years ago, and has worked very well. I think the main point here is that that is status quo.

CHAIRMAN BALLOU: Allison Colden.

21 DR. COLDEN: Obviously, as a person who lives in the Chesapeake Bay watershed and region, I think this is a very important discussion that warrants a lot more discussion. **I would like to offer as a substitute amendment to adopt Option B, Sub-option B to reduce the**

**Bay cap to 51,000 metric tons with no rollover.**

I would like to comment on that if I may.

CHAIRMAN BALLOU: Is there a second to that. There is a seconder, John McMurray seconds the motion to substitute so it's been moved and substituted, and Allison, the floor is yours.

DR. COLDEN: I think that many people around this table already know that the Chesapeake Bay is an extremely important nursery habitat; not only for Atlantic menhaden, but a number of the other species that these Boards manage, that this Commission manages. Even though there have been increased contributions of other places up and down the coast, in terms of menhaden recruitment. The Chesapeake Bay remains the largest contributor of menhaden to the coastwide stock.

It's because of this contribution, as well as the contribution of other organisms like particularly striped bass, from the Chesapeake Bay that this issue concerns not just the Bay states, but obviously every state that is sitting around this table. I would also like to point out that we haven't been seeing the same types of recovery that's been seen in New England.

That's not entirely shocking for anyone who has followed the work of Andre Buchheister and his colleagues, who noted that there are some climatic patterns that seem to correlate well with the recruitment of menhaden, and particularly that those patterns are negatively impact Chesapeake Bay, when they positively impact New England.

As long as we're continuing to see menhaden growing in New England that would imply that we would continue to see this low level of recruitment and low levels of menhaden within Chesapeake Bay. I would encourage this body at this point in time to really err on the side of the ecosystem; as we all said that we are committed to. Remember all of the other species coming out of the Bay, and that the

Chesapeake Bay menhaden populations are supporting, when we are considering this issue.

CHAIRMAN BALLOU: Thank you. John McMurray.

MR. McMURRAY: Setting a cap at 51,000 metric tons is essentially the status quo; as that's what they're catching now. Industry has consistently underperformed the cap. I would also note that if the entire cap were landed where it's set now that is about 100 million additional pounds, taken out of what I consider to be a very small area. That would most certainly have an impact on menhaden in that region and certainly the predators that eat them.

CHAIRMAN BALLOU: Ritchie White.

MR. WHITE: I have a question for Rob. I've heard that a lot of the concern on not lowering the cap is that the new owners of Omega have other uses for menhaden than are presently being used; which might prompt the harvesting of smaller fish. Can you comment on this? Can you, if you know, is there any commitment that the company will continue to harvest the fish size that they have been harvesting? My understanding is that that is why they're not catching their cap; because that size fish is not available in the Bay.

CHAIRMAN BALLOU: Rob.

MR. O'REILLY: Thank you for the question, Ritchie. No, I really can't comment; because I do not know the aspects of the future plans there at all. But I think the one thing is that the smaller fish are not desirable. I think I can say that; as much so for oil, which is a pretty good product from Omega.

The other thing, while I have the ability to say something, is that it's not really fair to say that because someone has harvested a certain amount by volition for the last five years that they should be held to that. That's sort of

making a decision on a fishery that the fishery should make a decision on.

Clearly, if there was 109,000 metric ton cap in 2006 and that was the average of 2001 to 2005. It tells you that at times when the stock was available, but not as robust as it is today, there was more harvest then. Now the stock is healthier, and for business reasons is all that I could say. You know the reduction fishery has not taken place to the same extent in the Bay. But I don't think that is a signal to anyone to decide that's where you're going to stay, that's your line.

CHAIRMAN BALLOU: Dennis Abbott.

MR. ABBOTT: Rob just; clarify something for me, Rob. In this instance you don't want to go by history. In the last five years you haven't come near your quota, and you're saying you can't go by the fact that we didn't catch it. But yet when we were dealing with all the other matters, then history seems to mean everything. There is in my mind a bit of contradiction.

But as a comment, on the one hand I could believe that it doesn't matter whether the quota is at 87,216 or 51,000, because you're not catching it. What that number is really doesn't need to be changed on the one hand, because you're not getting up to the 51,000 anyways. I don't know, but I think it sends the wrong message of catching too many fish out of the Chesapeake. I know the recreational people don't want that. I could go either way, but I think that lowering that number probably does no harm to anyone.

CHAIRMAN BALLOU: Additional comments on the motion, before I go back to Allison who has spoken already, I would like to get others in. Nichola Meserve.

MS. MESERVE: Just very quickly, I support the substitute and the comments from Allison and John. It seems like one example, one place

where we could follow the overwhelming public comment on this issue, and not have an economic harm imposed by it.

CHAIRMAN BALLOU: Dr. Duval.

DR. DUVAL: I think just this cap is based on average harvest over a number of years; and I know that there was previously a research program that was focused on trying to determine whether or not localized depletion was occurring. You know that research was inconclusive. I guess I would just put out there that I would hope that in the future that this might be something that the Board would revisit, should there be conclusive science that indicates one way or another how a cap should be set.

CHAIRMAN BALLOU: Back to, who I now realize should be addressed as Dr. Colden, my apologies. I now see that I've been off for only the past ten hours, on improperly addressing you, so Dr. Colden, back to you.

DR. COLDEN: That's no problem. I just wanted to make one comment in response to Rob's comment about fairness and equity. At the current, under status quo, there is the possibility; there is the capacity to harvest 97,000 metric tons from Chesapeake Bay, almost half of the entire coastwide TAC that we've been discussing all afternoon.

I don't know whether the recreational anglers of Virginia and Maryland would consider that equitable; but I think I know the answer to that question. In terms of a business decision, it's obvious that if the business decision has been made to harvest at a specific level within the Bay over the past five years. That this is not a business decision that is negatively impacting the bottom line; or else that decision would not have been made.

You know I think this reflects the past five-year's landings from the Bay. It's simply updating the window; the way that the cap was

originally put in place. We're simply updating to the last five years; and making it similar to the way the cap was first implemented when it was first put in place. I hope folks will consider those comments when they are considering this.

CHAIRMAN BALLOU: Any additional comments on the motion? Rob O'Reilly.

MR. O'REILLY: Very briefly. I think the main issue is that this is a coastwide stock; and there is no scientific basis to indicate that the Chesapeake Bay has suffered from any localized depletion. I certainly understand those who hold to that concept; only because they think of the Chesapeake Bay as differently than the coastal area, but it's not.

It's a unit stock, a coastwide stock. Science has not shown anything else. I think that is important, and I think for that reason there was an option here to remove the cap as well, which hasn't been talked about. I think that is where maybe some would get some comfort by knowing a cap is there; but once you have that comfort, I don't think you need to go any further.

CHAIRMAN BALLOU: Any further comments on the motion to substitute? Seeing none; is the Board ready for the question? Is so does the Board need time to caucus? I'll assume there might be at least some time needed, so let's make it a 30 second caucus. There has been a request for a roll call; so I'll have Megan call the roll moving north to south.

MS. WARE: Maine.

MR. KELIHER: Yes.

MS. WARE: New Hampshire.

MS. PATTERSON: Yes.

MS. WARE: Massachusetts.

MS. MESERVE: Yes.

MS. WARE: Rhode Island.

MR. REID: Yes.

MS. WARE: Connecticut.

MS. GIANNINI: Yes.

MS. WARE: New York.

MR. GILMORE: Yes.

MS. WARE: New Jersey.

MR. ALLEN: No.

MS. WARE: Pennsylvania.

MR. SHIELS: Yes.

MS. WARE: Delaware.

MR. CLARK: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

MS. WARE: Virginia.

MR. O'REILLY: No.

MS. WARE: North Carolina.

MR. BRADY: Yes.

MS. WARE: South Carolina.

DR. RHODES: Yes.

MS. WARE: Georgia.

MR. WOODWARD: Yes.

MS. WARE: New Jersey.

MS. WARE: Florida.

MR. ALLEN: No.

MR. ESTES: Yes.

MS. WARE: Pennsylvania.

MS. WARE: NOAA Fisheries.

MR. SHIELS: Yes.

MR. BURNS: Abstain.

MS. WARE: Delaware.

MS. WARE: Fish and Wildlife.

MR. CLARK: Yes.

MR. MILLARD: Abstain.

MS. WARE: Maryland.

CHAIRMAN BALLOU: **The motion passes 14 to 2 with 2 abstentions.** It now becomes the main motion; is there any further discussion on the main motion? Is there any further discussion on the main motion? Seeing none; is the Board ready to vote? If so do we need a roll call vote? Hearing no request, all in favor, yes there is a roll call vote on this now as the main motion. We'll call the vote again; same order.

MR. BLAZER: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

MS. WARE: Virginia.

MR. O'REILLY: No.

MS. WARE: Maine.

MS. WARE: North Carolina.

MR. KELIHER: Yes.

MR. BRADY: Yes.

MS. WARE: New Hampshire.

MS. WARE: South Carolina.

MR. ABBOTT: Yes.

MR. BOYLES: Yes.

MS. WARE: Massachusetts.

MS. WARE: Georgia.

MS. MESERVE: Yes.

MR. WOODWARD: Yes.

MS. WARE: Rhode Island.

MS. WARE: Florida.

MR. REID: Yes.

MR. ESTES: Yes.

MS. WARE: Connecticut.

MS. WARE: NOAA Fisheries.

MS. GIANNINI: Yes.

MR. BURNS: Abstain.

MS. WARE: New York.

MS. WARE: Fish and Wildlife.

MR. GILMORE: Yes.

MR. MILLARD: Abstain.

CHAIRMAN BALLOU: **The motion passes 14 to 2 with 2 abstentions.** We're almost at the end, and I am not a glutton for punishment. But I have been advised by staff that left hanging is the issue of what will happen in terms of the administration of any quota allocated to a state under our fixed minimum program that a state opts not to utilize.

It's left vague in the document; and there are I think two ways to handle this. One is to get into it right now; and decide how best to administer that reallocation of unused quota, the other is to push it to an addendum process. What is the will of the Board? Does anyone not get the point; or understand why we're bringing this up? I think I'm bringing it up because staff has advised; but Bob.

EXECUTIVE DIRECTOR BEAL: I guess some concern about timing with the addendum process or potential addendum process. You know, the states are going to have to decide very soon if they're going to harvest some or all their quota in 2018. The earlier we know that the earlier the receiving states, if you want to call it that, can make their plans.

The assumption is Virginia may be one of the receiving states. Keep in mind that menhaden is managed through the Virginia State Legislature; rather than through VMRC, and legislative session begins at the beginning of the calendar year. The more Virginia knows, I think at the beginning of the year, the more information they have to work with going into the legislative sessions.

If there is an easy way to do it right now it would be a lot better. Easy and now is probably an oxymoron. But I think anything we can do to help staff understand how we're supposed to divvy up the relinquished fish would help a lot of folks out, I think.

CHAIRMAN BALLOU: Thank you for that advice. With that advice, are there any suggestions from the Board? Pat Keliher.

MR. KELIHER: I move we have a caffeine break. No, Mr. Chairman I think we need some language. Do you have some language there, Megan? **Mr. Chairman, I would move that states must declare any relinquished quota by December 31st of the previous year. Any quota that is foregone by a state is redistributed to the other jurisdictions based on historic landings from the time period selected by the Board in this Amendment.**

CHAIRMAN BALLOU: Is there a second to that motion? Seconded by David Borden, Pat Keliher, do you want to speak more to it?

MR. KELIHER: I don't think this is perfect; by any stretch of the imagination. I think there were other comments during the last deliberation; in regards to have it going to very specific areas, whether it be the small-scale fishery or whether it be episodic. I don't think that is precluded from this motion. But it may need to be more specific. But I think the intent is to ensure that we have a clear understanding up front, and that clear understanding would be prior to December 31st.

CHAIRMAN BALLOU: Thank you. David Borden.

MR. BORDEN: I seconded it for discussion purposes. But I guess my question to Bob is, is December 31st adequate; in order to do what you want to do here, or should we back it up to like November 1st, or some date in November?

EXECUTIVE DIRECTOR BEAL: Mr. Chairman.

CHAIRMAN BALLOU: Please, I'm sorry.

EXECUTIVE DIRECTOR BEAL: It might be a better question for Rob O'Reilly. I don't know exactly when they have to have their legislative packages squared away to go into their legislative process. The end of the year may be really tight for them; you're right, David. I don't know if mid-December is right or what it may be. But Rob may have a better sense of their legislative timing.

CHAIRMAN BALLOU: Rob, did you want to, yes I'm sorry.

MR. O'REILLY: I think December 1 would be better. I think that's a good suggestion. I think December 1 would be. It's going to be a little bit difficult the first time around to go through this. I understand that. But that would give time for the General Assembly Session in Virginia.

CHAIRMAN BALLOU: This is two weeks from today, more or less. Pat Keliher.

MR. KELIHER: I would accept that as a friendly if my seconder would.

CHAIRMAN BALLOU: **Is there any objection to amending the motion to change December 31 to December 1? Seeing none; the motion is amended,** and we're continuing our discussion on it. Dr. Rhodes.

DR. RHODES: Well, I had one other friendly amendment; because I've been hearing concerns about the 1 percent episodic event set aside. Would it be appropriate to put in here, any quota that is foregone by a state covers the 1 percent episodic event set aside, and the remainder is redistributed. That way no one has to worry about losing any of their 100 percent quotas.

CHAIRMAN BALLOU: My take is those are two very different approaches. One goes right down the list of allocations, allocation percentages for the 2009-2011 period, and redistributes accordingly. The other would do something different. Your approach would do something different; I don't see how that could be a friendly. It would have to be in the form of a substitute. Adam Nowalsky.

MR. NOWALSKY: Would there be any merit to specifying that the receiving states be states that did not relinquish quota; because I don't think it would make sense to donate back to states that are already giving something up. I

might suggest consideration here that any quota that is foregone by a state is redistributed to the other jurisdictions that are not relinquishing quota. I'll put that out there for consideration.

CHAIRMAN BALLOU: That could be in the form of a friendly, I think. But first Bob Beal has a point.

EXECUTIVE DIRECTOR BEAL: I guess the way I was reading it, Adam, the notion that any foregone quota will be redistributed to other jurisdictions meant exactly what you said, which is jurisdictions other than the ones that relinquish quota. That is the way I was reading it; but maybe I was assuming too much.

CHAIRMAN BALLOU: Let me just ask Pat Keliher as the maker of the motion. Is that your intent?

MR. KELIHER: Our Executive Director did not assume too much, for once.

CHAIRMAN BALLOU: We have that clear on the record now that that is the intent. Nichola Meserve.

MS. MESERVE: Question to the maker of the motion whether this was intended to provide the flexibility to states to relinquish any amount of the fixed amount; as opposed to what the document currently says about 10,000 pounds for bycatch, or forego entirely.

MR. KELIHER: That's a great question. The intent would be to relinquish quota; with the understanding the document allows for that bycatch allocation.

CHAIRMAN BALLOU: Nichola, does that address your question?

MS. MESERVE: I think it's been answered. I guess I would have hoped that the states had more flexibility to give up any amount that they wanted to, as was part of the earlier motion today.

MR. KELIHER: I'm not opposed to that. It meets the intent of my original motion earlier in the day.

CHAIRMAN BALLOU: Again that is on the record as the intent. States have the flexibility to relinquish all or part of their quota. John Clark.

MR. CLARK: Just kind of a follow up. There could be a situation where, I'm just thinking of in our state. We would relinquish some of our quota; but it might turn out that in the fishing year of 2018, as we get to the end there would be more quota we could relinquish under this. It's only for the previous year. Would there be a way to relinquish quota during the fishing year also?

CHAIRMAN BALLOU: I think the answer to that is via transfer, yes, further discussion on the motion, Spud Woodward.

MR. WOODWARD: Just a question. If this motion were to pass, foregone means anything that is not transferred or used, is that correct?

CHAIRMAN BALLOU: I'm sorry, there is typing going on. I'm trying to follow, but let me see if Megan has a response.

MS. WARE: I'll just use a hypothetical. If Georgia wanted to forego half of their fixed minimum, half of your marbles would go through this process, and the other half you would still have. If you want to transfer those, you can do that.

MR. WOODWARD: Or I could transfer the entire quota to someone by declaring to do that on December 1st, which would leave nothing foregone. Is that correct?

MS. WARE: Correct. You would not opt out of the fixed minimum, so you would have all your marbles and you can do with them what you would like.

MR. WOODWARD: Well I would sure like to have all my marbles; it would be the first time

in my life. I think I understand this, all right thank you.

CHAIRMAN BALLOU: As we were just having that good exchange, the motion has been perfected and it now reads: ***Move that states must declare any relinquished quota by December 1st of the previous year. States have the ability to declare how much of their quota to relinquish. Any quota that is foregone by a state is redistributed to the other jurisdictions based on historic landings from the time period selected by the Board in this Amendment. Is there any objection to that perfected language?*** I see no objection from the Board. Toni Kerns.

MS. KERNS: Just a perfection, perhaps instead of saying foregone, we should be consistent and say relinquished, quota that is relinquished by a state, just to be consistent.

CHAIRMAN BALLOU: That makes very good sense to me. ***Is there any objection to substituting the word foregone with the word relinquished? Seeing none; we have an even more perfected motion.*** Is there any more perfection that needs to be done, or any more discussion that needs to take place on this motion?

Seeing none; is the Board ready to vote on it? If so; do you need time to caucus? Let's just do a 15 second caucus. All right, I'm going to call the question. **All in favor of the motion please raise your hand, thank you. Those opposed please raise your hand. Are there any null votes, I see none. Are there any abstentions, and there are two. The motion passes 16 to 0 with 2 abstentions.** I now believe, if I'm not mistaken but I may be, because I just see a hand go up. Robert Boyles.

MR. BOYLES: Mr. Chairman, I was going to offer a motion to approve the Amendment and they're not, okay, sorry.



CHAIRMAN BALLOU: We have one issue before that motion; which is moments away, I believe, and that is an implementation date. We do need an implementation date. Megan, if you could just speak to the options if you will that the Board has for an implementation date.

MS. WARE: It's really at the discretion of the Board; if there are certain timeframe constraints, states should probably come up with those now. My sense from the Board is that the intent is to have this implemented for the 2018 fishery.

CHAIRMAN BALLOU: We do need a motion on this. Would anyone like to make a motion regarding the implementation date for this Amendment? Tom Fote.

**MR. FOTE: I make an implementation date of 2018.**

**CHAIRMAN BALLOU: Tom, would you want to make that January 1, 2018?**

**MR. FOTE: Yes.**

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Loren Lustig? The motion is to move that states implement the provisions of Amendment 3 by January 1, 2018; discussion on the motion. John Clark.

MR. CLARK: As far as the Amendment won't be implemented until January 1, but Rob needs quota transfer to him by December 1. Do we have the quota as of the end of this meeting or as of January 1?

MS. WARE: I mean I can certainly work to get out the numbers as soon as I can as to what your guys quota will be with the different set asides. Then you guys can make decisions as to whether you would like to relinquish quota or not; if that helps.

MR. CLARK: Right, I just wanted to make sure. Okay, so all the factors are going into effect as

of today. We'll be transferring before the plan actually goes into effect.

MS. WARE: I think that's, I guess the intent of what the Board is deciding.

CHAIRMAN BALLOU: Just to clarify. We just agreed on some provisions that really are Amendment provisions that will actually kick in prior to January 1, 2018. John, to your point, I think it's a very fair point. But I think the record will reflect that those preliminary steps will be undertaken prior to implementation. You could argue they are part of implementation; but I think we're probably splitting hairs at this point, unless there is a feeling that we need to be more clear. Rob O'Reilly.

MR. O'REILLY: The Commissioner reminds me that the startup date is a little after January 1 for the General Assembly. But clearly that would be the implementation authority. It's not going to help the situation with the December 1 declarations. But January 1 might be a little bit too early to say that's the implementation.

I'm a little surprised. I think there probably are some other states that are going to need a little bit of time to do this as well. I remember in the past we've had to adopt even a May 1, which we don't want to do here. But I guess I'm asking the other states about this January 1 date. Maybe it might be better to put it into February.

CHAIRMAN BALLOU: Are there any thoughts by other Board members on whether January 1, 2018 is a date that they're comfortable with, or whether they wish to adjust? Cheri Patterson.

MS. PATTERSON: Question please. Megan, what is the harvest in the month of January?

MS. WARE: I don't know off the top of my head; but low.

CHAIRMAN BALLOU: Robert Boyles.

MR. BOYLES: Mr. Chairman, I would, I'm sorry you've got a motion. I'm sorry, never mind.

CHAIRMAN BALLOU: Any further discussion on the motion? Nichola Meserve.

MS. MESERVE: Just to clarify. Our state implementation plan is also due January 1, 2008, because Page 82 of the document has the option for two different dates for implementation plans being due, and then programs implemented.

CHAIRMAN BALLOU: Megan.

MS. WARE: Yes that's a good point. One option, taking into consideration what Rob O'Reilly said is we could do implementation plans due January 1, and then implementation date January 15, or February 1, whatever works. But that's just one suggestion.

CHAIRMAN BALLOU: There has been a suggestion. Is there an interest in modifying this motion? Robert Boyles.

**MR. BOYLES: Move to amend.**

CHAIRMAN BALLOU: Thank goodness, because we need this kind of excitement. Go ahead.

**MR. BOYLES: I would move to amend that states submit implantation plans for Amendment 3 by January 1, 2018, and implement by January 15, 2018.**

CHAIRMAN BALLOU: Is there a second to that motion; seconded by Jim Gilmore? Discussion on the motion to amend, is there any objection to the motion to amend? Seeing none; I'm sorry, Roy Miller.

MR. MILLER: Mr. Chairman, do we have to vote on those implementation plans?

MS. WARE: There is no voting. What has happened before is the Plan Review Team will review those; to make sure everyone has kind

of checked the boxes on the various parts of the plan that the Board has voted on today. If there are any concerns then the PRT will notify the Board; potentially electronically or at the February meeting. We'll figure out the timing there. But that's how we have done it in the past.

CHAIRMAN BALLOU: I'll ask again, is there any objection to the motion to amend? Roy Miller.

MR. MILLER: I'm sorry, Mr. Chairman, I hate to be a nitpicker. But if the Board will be reading over these implementation plans, why not push back the actual implementation until the February meeting?

CHAIRMAN BALLOU: Toni Kerns.

MS. KERNS: Oftentimes we have a more complicated plan that will need information from the states. The states will have a lot more things to change. In this document for the most part, the only thing that you're going to be implementing is a quota. If a state can't implement the quota by January 15, then that is what we would need to know right now. Otherwise, I'm not sure there is going to be a lot of Plan Review Team review of the state implementation plans, because you're just going to come back and tell us yes, we're implementing our quota. I'll leave that with the Board to discuss.

CHAIRMAN BALLOU: Rob O'Reilly.

MR. O'REILLY: I know Robert Boyles has been trying to help me out here. I guess the situation is this isn't anticipated to be an emergency action at the General Assembly. The General Assembly goes into March, I think this year. I'm looking to the back of the room and getting a head nod.

At the least, it would not be voted on and finalized through the House and the Senate, and be in the Governor's packet for him to either veto or sign, until March. I'm looking to

the back of the room, or early April. Again, I'm a little surprised. First of all please know that this is a rare occasion; because usually VMRC is able to promulgate regulations fairly quickly, you know within a two month period.

It does put us in a bind that way, in that we really wouldn't have the quota ratified until early April. I don't know what to say other than that. I suppose we could be fishing not with reduction or with the snapper rig fisheries up until May, starting in May. But there is a bycatch situation, and the pound nets may start in late February some years. It depends. You know it's sort of a mess, I guess. But I think we can work around this better if it's not January 15, and again I know this is sort of a unique situation, just looking for some guidance.

CHAIRMAN BALLOU: Bob Beal.

EXECUTIVE DIRECTOR BEAL: A number of instances at the Commission, the Boards have set implementation dates, knowing that certain states or Commonwealths may take longer to implement. The compliance and other things have been really evaluated, based on whether a state is or is not moving toward implementation.

January 15 may not be the right date, but if it's March 1, or whatever it may be. The Commission is aware that states are working through their rule making or legislative processes to implement this Amendment. I think that is the most important thing. The other important thing is all states are working up the same sheet of music that know that the quotas that are approved through this Amendment and the spec setting process, are fully applicable to 2018.

We're not starting the year with a different quota, and then on the implementation date we're switching gears to a new quota. The Board today has approved the 2018 quotas that the states are going to be evaluated by. I think the implementation date may not be that

critical. It's the state's working toward implementation of this that is the most important.

With that you guys can consider pushing back January 15 a little bit. But I don't know if we need to set the implementation date at sort of the least common denominator of the slowest legislative process; because some of the other states may need a shorter timeframe to sort of motivate them to implement the provisions earlier.

CHAIRMAN BALLOU: Eric Reid, did you have a comment?

MR. REID: I have a question. I think maybe Bob answered it; but I just want to be clear. What happens on January 1, as far as going fishing? What are we working off of? Are we working off of no quota? Are we working off of some quota? Do we have a bycatch? What do we have to work with?

CHAIRMAN BALLOU: Bob Beal

EXECUTIVE DIRECTOR BEAL: My understanding is you'll start with the allocations that are included in Amendment 3; based on the 216,000 metric ton quota that was approved earlier.

CHAIRMAN BALLOU: Yes, Andy Shiels.

MR. SHIELS: Would it make more sense to substitute the word implement and say no later than and pick a date; based on what Bob Beal said that you don't want to go for the fastest or the slowest state, but if it's no later than then everybody can work up to that date?

CHAIRMAN BALLOU: It's a suggestion. The Board can take that to heart, or we can just vote as proposed. I see two hands. Dr. Rhodes.

DR. RHODES: This hearkens back to an issue that we often have before the Board when we change rules or limits; because South Carolina, all processes are done by the legislature, so

Robert frequently is telling the Board that we will get this done as quickly as we can. However, it goes through the legislature. Virginia is in the same boat as us. We've never asked to change implementation dates, and I think the Board recognizes that if you're handcuffed by the legislature in certain areas you are, but you're working towards that goal.

This would be fine if other states require a little fire to get everything implemented by an earlier date, we would do that. We just stay aware of the fact that Virginia is moving as rapidly as their legislature allows. We've been in that boat 100 times, and you all have all forborne us during those times.

CHAIRMAN BALLOU: Robert Boyles.

MR. BOYLES: Mr. Chairman, I'm sorry. I meant to say April 15 for implementation date.

CHAIRMAN BALLOU: Is that serious?

MR. BOYLES: Yes sir, I did. I'm tired, I'm sorry, distracted.

**CHAIRMAN BALLOU: *That's okay. Now we have a modified motion to amend that states submit implementation plans for Amendment 3 by January 1, 2018, and implement by April 15, 2018. Is there any objection to that modification to the amended motion? Seeing none; the motion stands amended, but we still haven't voted on it yet.***

Is the Board ready to vote? **Are there any further questions or discussions on this issue? Seeing none; is there any objection to adopting the motion to amend? Seeing no objections; the motion to amend is adopted by consent, and it becomes the main motion.** Is there any further discussion on this now as the main motion? Seeing non hands; is there any objection to adopting this now as the final motion on implementation? Seeing no objections; the motion stands approved by

consent, and now Robert, I do believe we're ready for one final motion. Right, yes we are.

**MR. BOYLES: I would recommend to the Commission the approval of Amendment 3 to the Menhaden Interstate Fishery Management Plan as amended today.**

CHAIRMAN BALLOU: Is there a second? Seconded by Jim Estes, moved by Robert Boyles and seconded by Jim Estes, is there discussion on this motion? This will be a final action by the Board; the final action on Amendment 3. It will be a roll call vote by necessity, and it will end the process of considering Amendment 3. Loren Lustig.

MR. LUSTIG: I certainly appreciate what we've had today; which has certainly been a very insightful discussion. I apologize to those of you might wish that I had forgotten, but I did not forget Rachel, my pal over here in Maryland using the word "unless." Here's my response. The Lorax said, "Unless someone like you cares a whole awful lot, it's not going to get better, it's not." I think what we proved to our critics and our supporters are that the people in this room care a whole awful lot. Thank you.

CHAIRMAN BALLOU: Any further discussion on this motion? Seeing none; I'll have Megan call the roll. We'll go north to south.

MS. WARE: Maine.

MR. KELIHER: Yes.

MS. WARE: New Hampshire.

MS. PATTERSON: Yes.

MS. WARE: Massachusetts.

MS. MESERVE: Yes.

MS. WARE: Rhode Island.

MR. REID: Yes.

MS. WARE: Connecticut.

MS. WARE: NOAA Fisheries.

MS. GIANNINI: Yes.

MR. BURNS: Yes.

MS. WARE: New York.

MS. WARE: U.S. Fish and Wildlife.

MR. GILMORE: Yes.

MR. MILLARD: Yes.

MS. WARE: New Jersey.

**CHAIRMAN BALLOU: The motion passes 17 to 1 and the Amendment stands adopted.** Thank you, and before we move on to what I believe is our last agenda item, and it's a brief one, relatively brief. Indulge me for one minute, just one minute for some closing remarks. I would appreciate your time.

MR. ALLEN: Yes.

MS. WARE: Pennsylvania.

MR. SHIELDS: Yes.

MS. WARE: Delaware.

I really feel like I've learned two things through this process. One is that I was advised early on that amendments are a big deal; and I found that to be true. Then I've really learned that amendments pertaining to menhaden are really big deals. It has been quite a journey; but the second lesson that I've learned is that the journey is made possible thanks to the team effort of so many people.

MR. CLARK: Yes.

MS. WARE: Maryland.

MR. BLAZER: Yes.

MS. WARE: Potomac River.

MR. GARY: Yes.

I'm sure I'm missing some key folks here, or key entities. But I think back to the Allocation Workgroup Process that Robert Boyles began prior to my Chairmanship, while he was still Chair, which really carried forward and was very much a part of the provisions that ended up in this Amendment.

MS. WARE: Virginia.

MR. O'REILLY: No.

MS. WARE: North Carolina.

DR. DUVAL: Yes.

I think of the Plan Development Team and listening into their many hours of meetings, and working through these issues. I think of the Technical Committee and the BERP Working Group, and of course the Advisory Panel; for all of their hard work over the course of really, the past two years. This has been a long process.

MS. WARE: South Carolina.

MR. BOYLES: Yes.

MS. WARE: Georgia.

MR. WOODWARD: Yes.

Of course I recognize prior, and recognize again the enormous amount of public input that was provided for this process; and how well received and appreciated it was. Of course there is this Board, and I've never been so

MS. WARE: Florida.

MR. ESTES: Yes.

privileged to work with such a fine group of people. It has been an honor and really a great experience to work with you through this process and get to where we've gotten.

Last but not least this person to my right, Megan Ware, our FMP Coordinator (Applause), what a champion and what a dear friend and colleague. Thank you so much, Megan for all of your work. Boy, I'm sure it's going to feel good tomorrow to know that this is actually behind you. I believe Max might be stepping in, if I've got that right, so welcome, Max.

It's a cake walk, I assure you. Before we do turn to our last item, I just have to note how skilled and talented Russ Allen is, agreeing to serve as Vice Chair, and then also leaving us just at the point where he would have assumed the Chairmanship. Well played, Russ. But in all seriousness, thank you.

I know we acknowledged and thank you for your contributions to this Commission at the last meeting. But certainly, let's take this opportunity to thank Russ for all of his contributions to the Menhaden Board. Thank you. (Applause) With that we turn to our last agenda item, which is, I'm sorry, Dennis Abbott.

MR. ABBOTT: Excuse me, Mr. Chairman. You thanked an awful lot of people; but you didn't thank yourself, which is not appropriate to do. But on behalf of the Board, I would like to thank you for the work that you've put into this, and also like to thank you for the way that you have conducted all the meetings with the utmost consideration to every person in the room. I think you ought to be congratulated; and we surely appreciate the work that you've done over the past two years. Thank you! (Applause)

CHAIRMAN BALLOU: Thank you very much and you're going to want to stand again; because I was just reminded that this is Spud Woodward's last meeting. Let's please stand and give a round of applause to our colleague, Spud Woodward. (Applause)

## ELECTION OF VICE-CHAIR

CHAIRMAN BALLOU: With that we are indeed onto our last item of business; which is the election of a Vice-Chair. Does anyone have any recommendations or motions to make? Robert Boyles.

MR. BOYLES: **I would move that we nominate, select, and elect, and sentence Nichola Meserve as Vice-Chair of the Atlantic Menhaden Board, and if I could just to expedite things and the nominations be closed.**

CHAIRMAN BALLOU: I guess we need a second. Loren Lustig seconds that. Nominations are therefore closed. There is no chance Nichola that you're getting out of this one. **Is there any objection to the motion? Seeing none;** congratulations, Nichola and we look forward to your leadership as a follow to all that's been done by all of the prior Board Chairs and welcome and congrats.

MS. MESERVE: Big shoes to fill, but I expect nothing but smooth sailing for the next two years.

## ADJOURNMENT

CHAIRMAN BALLOU: With that I believe the next order of business would be to adjourn; and then there might be a reconvening of the Business Section. Do I have that correct? Jim will be doing that; and Jim is already poised and ready to go, so this is going to be a quick transition. I will hereby adjourn this meeting of the Menhaden Board and turn it over to Jim Gilmore for the Business Section.

(Whereupon the meeting was adjourned around 3:00 o'clock p.m. on November 14, 2017)

# Atlantic States Marine Fisheries Commission

## Summer Flounder, Scup, and Black Sea Bass Management Board

*February 8, 2018  
3:00 – 5:00 p.m.  
Arlington, Virginia*

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*R. Ballou*) 3:00 p.m.
2. Board Consent 3:00 p.m.
  - Approval of Agenda
  - Approval of Proceedings from October 2017
3. Public Comment 3:05 p.m.
4. Black Sea Bass Addendum XXX for Final Approval **Final Action** 3:15 p.m.
  - Review Options and Public Comment Summary (*C. Starks*)
  - Technical Committee Report (*G. Wojcik*)
  - Advisory Panel Report (*C. Starks*)
  - Consider Final Approval of Addendum XXX
5. Review and Consider Approval of Summer Flounder and Scup Recreational State Proposals for 2018 Measures **Final Action** (*K. Rootes-Murdy*) 4:10 p.m.
  - Technical Committee Report (*G. Wojcik*)
6. Consider Approval of 2017 Scup FMP Review and State Compliance Reports (*K. Rootes-Murdy*) **Action** 4:40 p.m.
7. Elect Vice-Chair (*R. Ballou*) **Action** 4:55 p.m.
8. Other Business/Adjourn 5:00 p.m.

The meeting will be held at the Westin Crystal City, 1800 Jefferson Davis Highway Arlington, Virginia; 703.486.1111

# MEETING OVERVIEW

## Summer Flounder, Scup, and Black Sea Bass Management Board

February 8, 2018

3:00 p.m.-5:00 p.m.

Arlington, Virginia

Chair: Bob Ballou (RI) Assumed Chairmanship: 10/17	Technical Committee Chair: Greg Wojcik (CT)	Law Enforcement Committee Representative: Snellbaker (NJ)
Vice Chair: Vacant	Advisory Panel Chair: Vacant	Previous Board Meeting: October 18, 2017
Voting Members: NH, MA, RI, CT, NY, NJ, DE, MD, PRFC, VA, NC, NMFS, USFWS (13 votes for Black Sea Bass; 12 votes for Summer Flounder and Scup)		

### 2. Board Consent

- Approval of Agenda
- Approval of Proceedings from October 2017

**3. Public Comment** – At the beginning of the meeting public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

<p><b>4. Black Sea Bass Draft Addendum XXX for Final Approval (3:15-4:10 p.m.) Final Action</b></p> <p><b>Background</b></p> <ul style="list-style-type: none"> <li>• In May 2017 the Board initiated draft addendum XXX to consider new regional approaches to managing the recreational black sea bass fishery.</li> <li>• The Board approved Draft Addendum XXX for public comment in December 2017. <b>(Briefing Materials)</b></li> <li>• Public comment was collected between December and January. Public hearings were held in MA, RI, CT, NY, NJ, DE, MD, and VA. <b>(Supplemental Materials)</b></li> <li>• The Advisory Panel met on January 25<sup>th</sup> to review the draft addendum <b>(Supplemental Materials)</b></li> </ul> <p><b>Presentations</b></p> <ul style="list-style-type: none"> <li>• Review of management options and public comment by C. Starks</li> <li>• Technical Committee Report by G. Wojcik</li> <li>• Advisory Panel Report by C. Starks</li> </ul> <p><b>Board Actions for Consideration</b></p> <ul style="list-style-type: none"> <li>• Select management options</li> <li>• Approve final document</li> </ul>
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**5. Review and Consider Approval of Summer Flounder and Scup Recreational State Proposals for 2018 Measures (4:10-4:40 p.m.) Final Action**

**Background**

- At the December 2017 joint ASMFC/MAFMC meeting the Board moved to extend Addendum XXVIII through 2018, re-establishing regional conservation equivalency, and specifying that regions could collectively liberalize harvest through their 2018 measures up to 17% above the projected 2017 coastwide harvest of 3.23 million (approximately 3.78 million pounds).
- At the same meeting, the Board also approved the continued use of regional management approaches to set state scup recreational measures for 2018.
- The Technical Committee met on January 16 to review proposals on summer flounder regional measures (**Briefing Materials**) and scup northern region measures (**Supplemental Materials**).

**Presentations**

- Technical Committee Report

**Board Actions for Consideration**

- Approve 2018 Summer Flounder and Scup Recreational Proposals

**6. Consider Approval of 2017 Scup FMP Review and State Compliance Reports (4:40-4:55 pm) Action**

**Background**

- Scup Compliance Reports are due June 1.
- In October 2017, the Commonwealth of Massachusetts indicated their squid fishery was out of compliance with the FMP requirements for the minimum mesh size and trigger for minimum mesh size in their small-mesh squid fishery.
- The Board postponed action on the 2017 Scup FMP review (**Briefing Materials**) until the Winter Meeting to allow Massachusetts to come into compliance.
- Massachusetts has outlined a timeline for coming into compliance in 2018 (**Briefing Materials**)
- Delaware has requested *de minimis* status

**Presentations**

- Overview of the Scup FMP Review and State Compliance by K. Rootes-Murdy

**Board Actions for Consideration**

- Accept 2017 FMP Review and approve *de minimis* requests from Delaware

**7. Elect Vice Chair**

**8. Other Business/Adjourn**

## Summer Flounder, Scup, & Black Sea Bass 2018 TC Tasks

**Activity level: High**

**Committee Overlap Score:** High (Multi-species committees for this Board)

### Committee Task List

- January 2018: conference calls on Summer Flounder and Scup proposals on rec measures
- February 2018: conference calls to update regional rec measures based on Board approval of Addendum XXX and Wave 6 data
- July 2018: In person meeting to develop recommendations on 2019 specifications (Coastwide Quota and RHLs) for summer flounder, scup and black sea bass
- November 2018: In person meeting on 2019 rec measures
- 2018 Summer Flounder Benchmark Stock Assessment
  - TC – TBD 2018: Data Deadline
  - TC & SAW Working Group – TBD 2018: Data Workshop
  - SAW Working Group – TBD 2018: Assessment Workshop
- 2018 Scup Operational Assessment *\*(Under consideration, but not officially scheduled)*
  - TC – TBD 2018: Data Deadline and review of recreational data
- 2018 Black Sea Bass Operational Assessment *\*(Under consideration, but not officially scheduled)*
  - TC – TBD 2018: Data Deadline and review of recreational data

**TC Members:** Greg Wojcik (CT, TC Chair), Julia Beaty (MAFMC), Joe Cimino (VA), Peter Clarke (NJ), Kiley Dancy (MAFMC), Justin Davis (CT), Steve Doctor (MD), Emily Gilbert (NOAA), Jeff Kipp (ASMFC), John Maniscalco (NY), Jason McNamee (RI), Brandon Muffley (MAFMC), Kirby Rootes-Murdy (ASMFC), Gary Shepherd (NOAA), Caitlin Starks (ASMFC), Mark Terceiro (NOAA), Todd VanMiddlesworth (NC), Tiffany Cunningham (MA, TC Vice Chair), Richard Wong (DE)

**Summer Flounder SAW Working Group:** Tiffany Cunningham, Jason McNamee, Mark Terceiro

**DRAFT PROCEEDINGS OF THE**  
**ATLANTIC STATES MARINE FISHERIES COMMISSION**  
**SUMMER FLOUNDER, SCUP AND BLACK SEA BASS MANAGEMENT BOARD**

**The Marriott Norfolk Waterside**  
Norfolk, Virginia  
**October 18, 2017**

These minutes are draft and subject to approval by the Summer Flounder, Scup and Black Sea Bass Management Board.  
The Board will review the minutes during its next meeting.

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INDEX OF MOTIONS

1. **Approval of agenda** by consent (Page 1).
2. **Approval of proceedings of August 2017** by consent (Page 1).
3. **Move to include a second management issue in Draft Addendum XXX with options aimed to reduce noncompliance in the for-hire fisheries for summer flounder, scup and black sea bass; including a possible requirement for for-hire permit holders and operators to be held liable for violations of recreational fishing rules occurring during a for-hire trip** (Page 8). Motion by Nichola Meserve; second by David Borden.
4. **Motion to Substitute: Move to substitute to task our existing working group with developing options aimed at reducing non-compliance in the summer flounder, scup, black sea bass for-hire fisheries** (Page 11). Motion by Adam Nowalsky; second by Emerson Hasbrouck. Motion carried (Page 12).
5. **Main Motion as Substituted: Move to task our existing working group with developing options aimed at reducing non-compliance in the summer flounder, scup, black sea bass for-hire fisheries.** Motion carried unanimously (Page 12).
6. **Move to recommend NMFS open the black sea bass recreational fishery in federal waters from 2/1/18 – 2/28/18 with a minimum size limit of 12.5” and a per person daily possession limit of 15 fish. Based on staff analysis, the 2018 recreational harvest limit that applies to the remainder of the fishing year will be reduced by the preliminary estimate of 100,000 lb to account for expected catch during the February season. Adjustments to the 2018 recreational measures to account for this estimated February catch will be required only of states that participate in the February fishery** (Page 20). Motion by Adam Nowalsky; second by Rob O’Reilly. Motion carried (Page 27).
7. **Move to postpone Board approval of the Scup FMP review and state compliance reports until the Winter Meeting** (Page 28). Motion by David Pierce; second by Sen. Phil Boyle. Motion carried (Page 29).
8. **Move to adjourn** by consent (Page 29).

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**ATTENDANCE**

**Board Members**

Pat Keliher, ME (AA)	Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
Doug Grout, NH (AA)	Roy Miller, DE (GA)
Raymond Kane, MA (GA)	John Clark, DE, proxy for D. Saveikis (AA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
David Pierce, MA (AA)	Mike Luisi, MD (Chair)
Nichola Meserve, MA, Administrative proxy	Ed O'Brien, MD, proxy for Del. Stein (LA)
Bob Ballou, RI, proxy for J. Coit (AA)	Rachel Dean, MD (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	John Bull, VA (AA)
Mark Alexander, CT (AA)	Rob O'Reilly, VA, Administrative proxy
Lance Stewart, CT (GA)	Kyle Schick, VA, proxy for Sen. Stuart (LA)
Jim Gilmore, NY (AA)	Cathy Davenport, VA (GA)
Emerson Hasbrouck, NY (GA)	Chris Batsavage, NC, proxy for B. Davis (AA)
Sen. Phil Boyle, NY (LA)	Doug Brady, NC (GA)
John McMurray, NY, Legislative proxy	David Bush, NC, proxy for Rep. Steinburg (LA)
Tom Baum, NJ, proxy for L. Herrighty (AA)	Lindsay Fullenkamp, NMFS
Tom Fote, NJ (GA)	Sherry White, USFWS

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

Jason Snellbaker, Law Enforcement Representative

**Staff**

Robert Beal	Mike Schmidtke
Toni Kerns	Caitlin Starks
Kirby Rootes-Murdy	Jessica Kuesel

**Guests**

Mike Armstrong, MA DMF	John Maniscalco, NYSDEC
Russ Allen, NJ DFW	Dan McKiernan, MA DMF
Dave Bard, ECS Contractor, NOAA	Chris Moore, CBF
Allison Colden, CBF	Kathy Moser, NYSDEC
Heather Corbett, NJ DFW	Derek Orner, NOAA
Laura Diedenick, ECS Contractor, NOAA	Cheri Patterson, NH F&G
Greg DiDimenico, SSA	Tim Sartwell, NOAA
Michelle Duval, NC DMF	Jack Travelstead, CCA
Paul Forsberg, Montauk, NY	Chris Wright, NMFS
Matthew Gates, CT DEEP	Arnold Leo, E. Hampton, NY
Stephanie Iverson, VA MRC	Brandon Muffley, MAFMC
Chip Lynch, NOAA	

These minutes are draft and subject to approval by the  
Summer Flounder, Scup and Black Sea Bass Management Board.  
The Board will review the minutes during its next meeting

The Summer Flounder, Scup and Black Sea Bass Management Board of the Atlantic States Marine Fisheries Commission convened in the Hampton Roads Ballroom V of the Marriott Waterside Hotel, Norfolk, Virginia, October 18, 2017, and was called to order at 4:26 o'clock p.m. by Chairman Michael Luisi.

#### **CALL TO ORDER**

CHAIRMAN MICHAEL LUISI: Good afternoon, and good evening and welcome. I would like to call the meeting of the Summer Flounder, Scup and Black Sea Bass Management Board to order. My name is Mike Luisi; and I will be chairing the meeting today. Up here with me at the table I have Kirby and Caitlin; with AMSFC staff.

Brandon Muffley is with the Council staff, and Jason Snellbaker representing the Law Enforcement Committee.

#### **APPROVAL OF AGENDA**

CHAIRMAN LUISI: Moving into the agenda, the first order of business is the approval of the agenda. Is there anybody that has anything they would like to offer regarding the agenda? Adam Nowalsky.

MR. ADAM NOWALSKY: Given that we found out late yesterday that the Wave 4 data was available; and we will have the opportunity to discuss it today. Perhaps that might warrant the item currently slated for last to be bumped up one item; and finish the day with the Plan Review.

CHAIRMAN LUISI: Okay so that would be we would move Number 7 after Number 5, before Number 6. Is anybody opposed to that adjustment to the agenda? Okay seeing none; consider the agenda modified as described by Adam.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN LUISI: On to the approval of the proceedings, any comment or discussion on the proceedings, is there any opposition to the approving of the proceedings?

I'm sorry; I'll get this microphone right here in a second. Okay seeing none; the proceedings are approved.

#### **PUBLIC COMMENT**

CHAIRMAN LUISI: On to public comment, nobody signed up for public comment; but is there anybody ~~on~~in the audience that would like to make comment to the Board on something that is not on the agenda?

#### **CONSIDER BLACK SEA BASS DRAFT ADDENDUM XXX**

CHAIRMAN LUISI: Okay seeing none; we'll move on to our next order of business, which will be the discussion in consideration of the Black Sea Bass Draft Addendum XXX for Board review. Kirby is going to give that presentation; so Kirby when you're ready.

MR. KIRBY ROOTES-MURDY: I'm going to try to go through this fairly quickly; as we have a number of items we're going to be talking about today. We've already gone through a lot of this document with this Board back in August. I'm really trying to focus today on short background and what sections have been updated based on the Board feedback in August; and then the Recreational Working Group's feedback and recommendations.

I'll talk about next steps and then get into any questions you have. Just briefly, we went through a motion in May, 2017 to initiate a new addendum looking at different regional allocations; regions with uniform regulations, and other alternatives to the current north/south regional delineation.

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In the summer of 2017 a memo was developed with management options; based on the Recreational Working Group's feedback. That was then presented at the August meeting. The Board provided feedback to staff to further develop the document.

In October of 2017, the Rec Working Group was provided an update of that document; and subsequently made revisions to it. I want to be clear that the document that was included in Supplemental Materials is inclusive of those revisions that were offered up by the Recreational Working Group.

I'm just going to be making a point-by-point what they decided to revise and change in the document; in my presentation today. As you all are aware, the coastwide recreational catch limits for 2017 is 4.29 million pounds for black sea bass. It's a 52 percent increase from 2016. For 2018 though, we're looking at a recreational harvest limit that is lower than the current year's RHL. It's going to decrease by about 14 percent.

I've tried to highlight here, moving on to the proposed management options, the items in particular that were looked at and revised by the Rec Working Group. I have a lot of working groups I'm working with these days. The first is regarding New York's Wave 6 harvest. There were a couple of approaches that were evaluated; the new timeframe that was suggested at the August meeting, and then options regarding how often allocation would be revisited.

First I've got four slides regarding the smoothing approach that was discussed back in August. There was a Technical Committee call in September. At that Technical Committee meeting there was a presentation by one of the TC members on what is referred to as a Gaussian Process Regression Analysis.

In summary what it does is it tries to account for the inter-annual changes in harvest; and highlight that they should be related to each other, and that effort and potential harvest should not change by orders of magnitude from one year to the next. MRIP data for the entire time series 1981 to 2016 was evaluated with this approach; and a new set of annual estimates, not wave specific estimates, but annual estimates were generated from this approach.

With using the new Gaussian Process, the estimates then were evaluated against the MRIP estimates. What you would see is that they are different year-to-year from what the MRIP estimates are. It effectively smooths through the entire time series; 2011 to 2015 MRIP estimates are lower than what the Gaussian Process Regression estimates are.

For 2016, New York's number of fish the MRIP estimates is about 1 million fish. The Gaussian Process has it down at about 565,000 fish. Only looking at New York, this analysis developed new estimates, recreational harvest estimates for the entire time series. It was made clear on that call that the Technical Committee is not certain how, if that same approach were to be applied to other states or the coastwide estimate over the entire series, how that smoothing approach would change and do a comparison of what the new estimates would be to the MRIP estimates.

The TC noted that if this approach were to be used it would need be versatile in applying both an estimate that at times might be higher than what the MRIP estimate is. That is the idea that needing to cut both ways. There was a concern by this Board that 2016 Wave 6 estimates were anomalously high. This approach might find that previous year's harvest that was lower would actually be higher. Then it would be a matter of if the Board were to go with an approach like this, to use both those estimates



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that are higher than the prior MRIP year estimates as well as those that are lower.

There was some additional homework that was asked by the Technical Committee of this TC member to conduct that hasn't been completed as of yet. The second approach that was evaluated by the group was a ratio; where we look at the prior year's harvest in Wave 5 to 6 and develop a ratio of how we think that should ultimately carry forward into subsequent years where there aren't significant changes in harvest.

In summary, those years that have minimal regulatory changes were considered candidate years. The candidate years were 2012 to 2016, 2006 to 2008 and 2012 to 2015, and 2012 to 2015 by itself. What this approach developed was new harvest estimates just for New York's Wave 6 in 2016. But depending on which combination of candidate years are used, you might get a very different Wave 6 estimate.

The Technical Committee found that this methodology was a little bit more intuitive; and that you're just applying a ratio of prior year's harvest of these candidate years to your current year's estimate to get a better projected harvest. But there was not a consensus reached on whether this approach or the other smoothing approach should be applied moving forward.

In considering this, the Rec Working Group recommended that without guidance at this point that any allocation timeframe in the document should be removed that includes the 2016 harvest estimates. Additionally, at the last Board meeting there was a request to include a new timeframe for allocation that is using data through 2001 to 2010.

In looking at it staff determined that there wasn't post stratified estimates for North Carolina prior to 2004. After checking in with the Board member who requested this, they

agreed with adjusting that requested allocation timeframe to be 2004 to 2010. Instead of a ten year time period, it would be seven years.

The Rec Working Group pointed out that the seven year timeframe was at odds with the other allocation timeframes that were being offered up in the document; and also noted that this approach was different, or at least ran against the previous recommendation of trying to use more recent year's data rather than earlier in the part of the 2000s.

They had two specific recommendations for this. The first was to remove the timeframe option of 2004 to 2010. The second was to change the allocation timeframes to be ten and five-year blocks. Those have been adjusted and are included in the draft document that was included in supplemental materials; so if you have any questions please reference that document that is in your supplemental materials.

Next was moving on to looking at state allocation of the RHL and regional reductions. Remember there was an option in the document to have similar to summer flounder, state allocations of the annual RHL. The Rec Working Group expressed concerns with keeping this option in the document; as many of them noted and expressed specific examples where they felt that state-by-state allocations would be problematic for black sea bass, not only because of some of the issues specifically encountered for summer flounder, but because the conservation equivalency approach that is used in the joint management currently is not in play for black sea bass. Having state specific allocations – when in fact they would only apply in state waters and not extend out into federal waters – would also create challenges.

The Working Group recommended to remove state allocations of the annual RHL as an option in the document. Regarding the regional reduction options, these were sub-options in

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the previous document you all were given. There were too many similarities between what they were offering up and what previous ad hoc regional management options entailed.

In turn, the Rec Working Group was worried that we would be moving back possibly if these options were selected; to the exact type of management that many have cited as problematic in recent years. The group recommended removing options proposed setting a regional percentage reduction; and that is reflected as I said in the supplemental materials draft addendum.

Regarding the sub-option of revisiting allocations, it was noted at the last Board meeting there was a request to include this. There were three options that were developed. One was a three-year time period, one was a five-year time period, and one was a seven-year time period. In looking at this in relation to recent addenda that the Board has approved, many of them have not been extended beyond two years.

Having an addendum that had allocation, revisiting timeframes that were well beyond that did not quite match up. The Rec Working Group recommended removing the entire sub-option of revisiting allocations and using just the expiration of the addendum as the point in which allocations could be revisited.

The group also looked at the change that was included for the timeframes; for how long the addendum would be in play. Many of the Rec Working Group members noted that their preference was for the document to be in play for at least more than one year. Then as you all should be aware, we have had over the last few years the ability to extend addenda at the end of the first year.

It's not an automatic carryover year in and year out; it's always an option that the Board has if the addendum specifies the ability to go for

more than one year. The Rec Working Group recommended removing the option of that only one year timeframe for the addendum. I'm just going to go through now a new management option that was proposed in the document; and then I'll be wrapping up.

The general idea that this option puts forward is to move away from using the MRIP harvest estimates for allocation decisions. Instead it wants to move towards using a different metric. What was proposed and is included in the Rec Working Group memo that is also in supplemental materials was the idea of basing that on recreational catch per angler and in turn modifying that based on the angler population.

What was being considered at that point was looking at state license information as the way to modify effectively what your population is that is fishing on the resource. Additionally catch per angler was used as indices for tuning in the 2016 Benchmark Stock Assessment. As noted, this option is explained in greater detail in Appendix A of the Rec Working Group memo. There are two regions that it puts forward that match up with what the 2016 assessment had. New York through Maine would be a northern region. New Jersey through North Carolina north of Cape Hatteras would be a southern region. As I said, the CPA would be modified based on license information; in part because the CPA in each of those distinct regions based on the assessment, are actually pretty similar.

People are catching between those two regions approximately the same number of fish per trip. There would also then be one set of measures in place for each of those regions. Those example potential measures are included in the memo; and I just want to stress as we do many times that these are example potential measures, they are not set in stone.

If you have questions or are curious about what they are, please check out the memo. These measures would likely be a liberalization from

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2017 harvest; and the idea being that with potentially liberalizing measures there would be the ability to further improve compliance with the state measures at the regional level.

But also with that would be an “ask” for there to be additional recreational data collected from the fishery along five parameters. The first being biological sampling, the second would be trying to reduce the refusal rates for MRIP interviews, the third would be increase discard composition information, the fourth would be reducing discarding; and as I pointed out, improving compliance with management measures.

The goal would be to try to have all states move to incorporate and hit on these five parameters by about 2020. This timetable that was included here was under the impression that we would maybe be having the Board consider approving this document for public comment today. I want to note that this timetable would be modified; depending on how the Board decides to act on this addendum today, and moving to possibly look at approving the document in December.

That would adjust some of these dates that are included in the memo; so I just want to note that at this point. The last part of it is trying to move away, not only from basing allocation on MRIP estimates, but also in changing how the evaluation of annual harvest and the fishery performance is year-in and year-out.

We know that there will be tentatively an operational stock assessment scheduled for early 2019; and if this option were to be further developed and included in the document, it may include provisions to try to leave measures in place and then adjust them as needed, based on the results of the 2019 operational stock assessment relative to the reference points.

The Rec Working Group provided feedback on this new option. Many noted that Rec CPA

actually might not be appropriate for basing allocation on; because the catch rates are so similar between the two regions, and licensed data is helpful in getting at the whole population that is fishing on the resource.

It is noted that a number of states have free license registries, and that in turn while it may create incentives for people to get the license, it also has not been effective in fully capturing the full population that is fishing on the resource. A better approach that was suggested on the call was to base allocations on the exploitable biomass; the actual population of the resource within each of these two regions. There was interest in collecting more recreational data; and that was something that many felt should be further developed and refined if this option is to be included in the document. There were also concerns raised about New Jersey’s position in these two regions; given their large harvest. In recent years they haven’t been grouped with southern region states that set their measures consistent with the federal waters measures.

There was a discussion, or at least a note, to need further discussions on how to evaluate performance moving forward. This is something that the Technical Committee is continuing to work on and will hopefully be reporting out to the Board at the joint meeting in December. At this point the Rec Working Group’s recommendation is to further develop this option for inclusion in the addendum.

In summary though, because it needs more work, the Rec Working Group members support delaying approval of the Draft Addendum XXX until the joint meeting in December of 2017. In turn, if the Board is interested in following that recommendation no action is needed on the document today.

I will note that there was a request for an additional management issue to be included in the Draft Addendum XXX regarding holding

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permit holders, for-hire permit holders and operators responsible for violations of recreational regulations during a for-hire trip. More information on this is included in Appendix B of the memo. With that I'll take any questions.

CHAIRMAN LUISI: Thanks Kirby for your presentation. Kirby has presented you kind of where we stand. The Working Group and the Technical Committee worked on the response from the previous presentation to the Board from our meeting this summer. We've received a number of recommendations from the Working Group. It doesn't appear that the timeliness of this is mandatory that we approve this for public comment today.

There is a recommendation to delay until we meet with the Council and the Commission in the joint meeting in December. There are a number of things to consider. I think while we may not need to take action, I would like to get feedback from Board members as to whether or not the Working Group recommendations would be approved or accepted; so that the document can be modified to account for those changes. But let's start with questions. If anyone has any questions about the technical nature or the presentation, now would be the time. Rob O'Reilly.

MR. ROB O'REILLY: Unfortunately I could not make the last Working Group conference call. It looks like some further work was done; I think that's good. I would ask the part about the exploitable biomass being better than maybe the catch per angler. One of the things that Gary Shepard indicated when the stock assessment was being reviewed by the Statistical and Scientific Committee was that it's not as if there isn't abundance south of Hudson Canyon.

If you remember the assessment sort of went north and south of Hudson Canyon. There is definitely abundance there; but there is no

question that the larger fish are going to be found in that northern sector. I hope that as this goes forward with the Work Group that maybe abundance is also one of the factors to look at.

The only other thing I would ask, and I don't remember how this went, but I know that with summer flounder there was sort of a catch per angler included as an ancillary metric that John Maniscalco developed. I don't think that that really was addressed very much at the time; but you know this certainly would not be a precedent, but it's certainly something that can be considered later on. The third thing I would ask about was if there was uncertainty about New Jersey; and we all remember that when tautog was undergoing the repercussions from the final assessment, it was what to do with Connecticut until the Long Island Sound situation developed; and looking at that as a region.

With New Jersey I wasn't sure if the Working Group had any other recommendations that weren't placed before us today; as far as that status went whether there are any other suggestions, such as New Jersey as a separate region. I'm very aware that New Jersey has said at many occasions there is a difference as you go north.

We're in that sort of same situation that we had with tautog. We've had sort of a DelMarVa approach, including North Carolina since 2011, operating under federal management measures. The New Jersey situation is something I would like to hear a little bit more about; if there is anything else about it.

CHAIRMAN LUISI: Kirby.

MR. ROOTES-MURDY: Sure. Again, I think the main concern was regarding the volume of harvest that New Jersey has relative to the coast. The concern that was raised on the call was that setting measures for effectively the

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highest harvester in the region, might present some challenges for the other states within a region who don't harvest nearly as much. That was the primary concern. But I will note that currently the document still has a regional option there where New Jersey is looked at by itself, so that is still in there as an option.

MR. O'REILLY: Thank you and a quick follow up if I may, Mr. Chairman.

CHAIRMAN LUISI: Certainly.

MR. O'REILLY: Was there any conversation or discussion about going beyond just exploitable biomass and looking at abundance? Did that occur? I don't know.

MR. ROOTES-MURDY: No there wasn't a great discussion about, within the idea of an exploitable biomass how that should be further evaluated for allocation; it was just suggested as a way to possibly parse out what allocations should be based on. We're looking to hopefully develop that idea further over the next couple months and report back out to the Board on what that could look like.

CHAIRMAN LUISI: Nichola Meserve.

MS. NICHOLA MESERVE: Kirby, I believe during the Working Group call you indicated that you might be having some early discussion with GARFO about the application of F-based management that is presented here; and how they might respond to it in terms of our normal management approach of working with the RHL.

I ask because I want to know if this option really has some legs; because I don't think it is ideal to delay this document. I had hoped that we could maybe get ahead one meeting in our normal timeline here; in order to provide the for-hire industry and anglers earlier indication of the rules they would be operating under this year. But I can certainly support our continuing to

work on this option if it has some potential and could provide some relief from managing to the RHL.

CHAIRMAN LUISI: Kirby.

MR. ROOTES-MURDY: Thank you, Nichola, I have not had time to reach out and further discuss this with GARFO. They are here obviously, and it could be a question posed to them on the record; but it hasn't been further discussed with them.

CHAIRMAN LUISI: John Clark.

MR. JOHN CLARK: I'm sorry to be a nitpicker at this time of the day, but just wanted to repeat again that the alternative management proposal is not a liberalization for the southern region. It's only for the northern part of the range that this would be liberalization. For us it would be a shorter season and a lower possession limit.

MR. ROOTES-MURDY: Yes thank you, John for that note. John is referencing as I pointed out before, the example potential measures. But he also made this noted and it's included in the memo as such, so thank you.

CHAIRMAN LUISI: It's too early in the day, John to nitpick. We still have a long way to go. Are there any other questions for Kirby regarding his presentation? Okay seeing no additional questions; what is the pleasure of the Board regarding the further continuation or development of Addendum XXX?

The Working Group, as presented by Kirby, had a number of recommendations in moving forward. We could do so and come back to this Board at the joint meeting in December for finalization of the Addendum for public comment. But if the Board has a different direction they would like to take, I would like to hear about that now.

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Nichola already made the point that it would have been better had we been able to take it out to public comment between now and December. But the recommendation was to continue further development of the option that just wasn't ready for prime time. That's kind of what I've heard from staff. I'll look to the Board members for any thoughts. Bob Ballou.

MR. ROBERT BALLOU: I do support postponing until December. I do think it would behoove the Board to kind of codify the key issues that we want to try to tackle between now and then; so we have a good sense of direction, in terms of where we want to end up by December.

Obviously we just had a good point raised in terms of that F-based approach that relates to Option 4; that seems to be key. There is the issue of the for-hire compliance piece, and whether that should be included or not. I would suggest postponing; but with a maybe to-do list associated with that.

CHAIRMAN LUISI: I will point out and add to that. By postponing it does not mean that the Option 4 which was presented will be able to be developed to the point where it could be considered. We may need to remove that if it's reported that it just hasn't been developed far enough. We're not saying that it will definitely be in the document is what I'm trying to get to. That is a good point that we should come up with a list of what it is that we're directing staff to do between now and December. Obviously if I don't hear any comments about deviating from the Working Group recommendation, I'll take that as support for the Working Group recommendations moving forward in modifying the current draft document.

But then we also have the point that was raised late in Kirby's presentation about the for-hire fleet; and whether or not we want to add an element to the document between now and the December meeting for consideration. I'll look

again to the Board for discussion. Nichola Meserve.

MS. MESERVE: If this document is delayed then I would be interested to task the Working Group, PDT, with developing that issue about for-hire noncompliance. The last Working Group's call came on the heels of a couple large sea bass busts. They were well publicized in New York, involving the abandoned coolers.

The legal language that New York lacked in order to hold those Captains accountable for those violations, I would like to see us address this if possible; if the Board agrees that it's appropriate to do in Draft Addendum XXX. I know the Policy Board is having a discussion on this issue tomorrow though, and that the Law Enforcement Committee is either talking about it yesterday or today. Their input could come into play if the Working Group does address it and come forward with some options for the December meeting.

If it's necessary I could make that as a motion to include that option if you want. I believe staff has a motion. **That would be to move to include a second management issue in Draft Addendum XXX with options aimed to reduce noncompliance in the for-hire fisheries for summer flounder, scup and black sea bass; including a possible requirement for for-hire permit holders and operators to be held liable for violations of recreational fishing rules occurring during a for-hire trip.**

CHAIRMAN LUISI: Okay Nichola. Thank you for your motion. I'll look to the Board for a second; second by David Borden, discussion on the motion. Nichola, would you like to add anything in addition to your comments already stated?

MS. MESERVE: Yes, I guess I would point out that there is a federal rule that provides some language about comingled catch and the Captain of that vessel being accountable for

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violations of the possession limit. That is some additional language that the Working Group could review.

I believe there are a couple states that have rules other than just Massachusetts. The Council had some discussion of this last week, and there was a suggestion about a requirement for the labeling of coolers; so there are really a couple of different options that the Working Group could look to move this motion with.

CHAIRMAN LUISI: David, did you have anything to add as a seconder?

MR. DAVID V. BORDEN: Nichola just made the point. But the only thing I would add is this basically requires us to develop something we're going to look at later; and then make a final decision on whether or not it goes into a public hearing document. I think it is an appropriate strategy.

CHAIRMAN LUISI: I'll just add to Nichola's comment regarding the Council discussion last week. This was brought up at the Mid-Atlantic Council meeting, and the Mid-Atlantic Council has on its priority list for 2018 a recreational black sea bass amendment that they plan to initiate. There is little definition to what that amendment might be; but it could very well include provisions regarding what's being discussed here regarding the for-hire fleet and accountability.

As Nichola mentioned there are a number of different roads converging on one issue. I could see it as a reasonable exercise to go through with the process of putting together some alternatives and some options on the issue for your consideration for public comment at the December meeting. Are there any other comments; Chris Batsavage.

MR. CHRIS BATSAVAGE: I think for development purposes I could support this. I

think this issue can potentially go beyond summer flounder, scup and black sea bass; and we've had some internal discussions with our law enforcement staff, as far as what we're able to enforce dockside with the for-hire fleet compared to the charterboat fleet.

I'm very interested to hear the discussion tomorrow at the Policy Board; and any report back from the Law Enforcement Committee regarding this. I think that along with the things discussed last week may help us determine whether or not this addendum is the right avenue to address this issue.

CHAIRMAN LUISI: Bob Ballou.

MR. BALLOU: Just picking up on Chris's comment, I mean right now this is a draft of course; but it is titled Draft Amendment XXX Black Rec Sea Bass Management for 2018. This would expand the scope to include the noncompliance issue as it pertains to not just black sea bass, but summer flounder and scup as well.

That may well fit, but I guess we just have to make sure we revise the frame, if you will, for this addendum. As long as staff feel comfortable that it's an appropriate fit, I'm fine with this motion. It just seems that we're now broadening beyond black sea bass; and I just want to make sure that's on the record.

CHAIRMAN LUISI: Kirby, do you see any problem with expanding the scope for this one particular issue to the other species in the FMP?

MR. ROOTES-MURDY: I do not. I think it is fine.

CHAIRMAN LUISI: Is there any other discussion? Emerson Hasbrouck.

MR. EMERSON C. HASBROUCK: Do you want to have a motion to include the rest of the Committee's recommendations? Do you need that and if so, you don't okay.

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CHAIRMAN LUISI: After we take up this motion I will look for any opposition to the Committee's recommendations. If we have some we may need a motion, but if there is no opposition staff will move forward as directed by the Committee and this Board. Is there any other discussion on the motion? Would anyone from the audience like to provide any comment to the motion? Paul. It's down on the end next to Andy. You can sit with him for a little while and keep him company.

CAPTAIN PAUL FORSBERG: I'm Paul Forsberg; Viking Fishing Fleet, Montauk, New York. I don't think there is anybody in this room that can tell me how you can have 100 percent compliance on the fisheries when you have 100 plus people on one boat at one time; when you can catch your limit of fish within three to four hours.

I don't know how anybody in this room could tell me how to do it. I've been running a boat for 60 years now this year. I haven't figured out a way to do it. We have our regulations printed on the back of our fare tickets. We announce it every time we stop the boat what the regulations are. We have measurements on the rail.

We have signs throughout the boat. We have the regulations on our webpage. We have a lot of people that don't speak English, and that's where it's at. Okay, we can put our fare tickets on different language other than the English language. Well we have Chinese, we have Portuguese, we have Spanish and I can't get a ticket big enough to put all the languages on it that people understand.

I don't know how the boat could be held responsible for the multi-passenger vessels with 100 or so people; that amount of people on the boat. We're common carriers, we shouldn't be blamed and held responsible any more than a bus driver is held responsible for somebody

carrying drugs on the bus, or a train operator running a train in somebody has got drugs on the train.

A small six pack passenger boat, yes. They can count their fish. They can control them. You have two mates over six passenger's maximum. But when you get up into multi-passenger boats there is no way you can keep track of it. We do our best. I talked to Tony DiLernia about this problem a couple of weeks ago at the other meeting in Riverhead, and are willing to set down industry, feds, and state.

Let the three of us sit down and see if we can make some kind of regulations that will be better than what we have now that we can comply with. But there is no sense in putting on the regulation you have on the board here now; where it's impossible to comply with. If you want to put all the party boats out of business, you're doing a pretty good job right now by closing us down for a month in this past month. Just ask anybody in the business.

But that will most certainly put us out of business. If that's your intention, fine. I'm going to be laying people off now to this 30 day closure we had for sea bass this past October. I'm going to lay off people that I haven't laid off in 22 years. I employ 52 people in Montauk. I'm going to be laying people off now because of that closed season; how that knocked us dead. That is where we're standing.

Instead of putting a law like this through folks, let's get together and maybe we can make something that will make everybody happy; and we can compromise with something that we can all work with, and something that will work. That's not going to work. You just signed the death warrant of every multi-passenger boat there is. Thank you, for letting me speak.

CHAIRMAN LUISI: Thank you, Mr. Forsberg. Are there any other comments from the audience before I come back to the Board?



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Okay seeing none; I think for clarification I would like to ask the question of the maker of the motion regarding, it states here that the alternative would include a possible requirement for permit holder operators to be held liable.

Would you as part of this motion, Nichola, would you be suggesting that there may be an alternative to hold the fishermen liable or accountable; based on the marking of coolers or any other type of procedure that would be a decision point in the addendum, for not just holding charter\_boat captains and operators liable, but for anglers liability as well?

MS. MESERVE: Yes exactly. I foresaw the Working Group suggesting some other options that would achieve the main part of the motion; which would be to improve noncompliance, and that was just one example of an option.

CHAIRMAN LUISI: Okay thank you that's clear. David Busch.

MR. DAVID E. BUSH, JR.: I am obviously very sensitive to the folks that are out there on the water, as you all know me by now. I would be interested in seeing other options; at least having some to choose from, with possibly some public comment on how that would impact that particular sector.

CHAIRMAN LUISI: Rachel Dean.

MS. RACHEL DEAN: I would have to also echo that I'm pretty uncomfortable with this. That may come from a couple years of working on a for-hire headboat, where you have people fishing on both sides of the boat and you trying to scatter from one side to the other. Just knowing that a fish is slipped into a cooler and knowing that my livelihood would be dependent on me being able to catch that individual if I had my permit on the line.

It makes me uncomfortable; and I would welcome any law enforcement onto the boat, and I would certainly let them know which cooler went with whom or who I knew. But to take on that responsibility just kind of makes me uncomfortable. I understand we're not making this decision right now. But I could see that our for-hire sector would be a little bit uncomfortable with taking on that responsibility.

CHAIRMAN LUISI: I have Adam Nowalsky and then Roy; I'll come back to you. Adam.

MR. NOWALSKY: Addendum XXX, it just looks weird triple X up there, 30, let's call it 30. Maybe we should label 30 instead of putting three Xs up there moving forward. We're already talking about working on developing options. It's already a complicated issue. This item in and of itself could take up an entire addendum unto itself; I'm quite sure.

There are certainly concerns raised. I haven't heard the Law Enforcement report, I'm looking forward to. **But at this point in time, Mr. Chairman, I'm going to make a motion to substitute. That motion is move to task our existing Working Group with developing options aimed to reduce noncompliance in the summer flounder, scup, and black sea bass for-hire fisheries.**

CHAIRMAN LUISI: Thank you for that motion, Adam. We're going to wait until we can get it on the board and then I'll look for a second. Let me just ask the question. Your motion does not add this as an element now to the addendum. It tasks the Working Group to talk through it and bring it back for Board consideration at a later date.

MR. NOWALSKY: That is correct.

CHAIRMAN LUISI: How does that read, Adam, as you intended?

MR. NOWALSKY: I believe it is exactly as I stated it. Thank you very much.

CHAIRMAN LUISI: Okay I'll look for a second. Emerson Hasbrouck seconds the motion; discussion on the motion? Again let me just clarify that this would task the Working Group rather than add this as an element to Addendum XXX, as the previous motion stated. Bob Ballou.

MR. BALLOU: I don't support the motion, because I feel that that main motion accomplishes the same thing. The Working Group is going to need to continue to work on developing options for potential incorporation into the addendum. We can cross the bridge when we come to it, in terms of whether we feel we're ready for primetime, whether we're ready to adopt one of the options. If so fine, if not we take it back for further work, so I do not support the substitute.

CHAIRMAN LUISI: Roy Miller, I know that you had your hand up earlier. But do you want to speak to one of these?

MR. ROY W. MILLER: Yes. I'll switch to the new topic here, if that's all right, Mr. Chairman. I think I support the substitute motion. I was really uncomfortable with the original motion; based on the remarks by Rachel and Captain Forsberg. I think this is heading in the right direction; so I would support the substitute motion.

CHAIRMAN LUISI: Are there any other comments by the members of the Board? Okay does everyone need a minute to caucus? I could use 30 seconds with my delegation. Okay we'll caucus for 30 seconds. Okay I'm going to read the motion and then we're going to take a vote. Move to substitute to task our existing Working Group with developing options aimed at reducing noncompliance in the summer flounder, scup, black sea bass for-hire fisheries.

Is the Board ready to call the question? **All those in favor of the substitute, please indicate by raising your hand. That is 8 in favor, all those opposed same sign. Two opposed any abstentions, one abstention, any null votes, and one null vote? The motion carries. The substitute motion now becomes the main motion.**

Do we need any additional time for caucusing on the main motion? I'm not seeing anybody shaking their head up and down so I'm going to call the question again. The substitute becomes the main motion. All those in favor of the main motion please indicate by raising your hand. I'm sorry, hold on one second; I'm being asked to slow down.

MR. ROOTES-MURDY: Just trying to get it up on the screen real quick, sorry.

CHAIRMAN LUISI: **Okay the motion is: Move to task our existing Working Group with developing options aimed at reducing noncompliance in the summer flounder, scup and black sea bass for-hire fisheries. All those in favor of the motion please indicate by raising your hand. That is 12 in support; all those opposed same sign. That is 0, any abstentions, any null votes. All right seeing neither the motion carries.** Toni.

MS. TONI KERNS: Is the intent of the timing to include this is Addendum XXX or no? Just what's the timeframe that you want the report done?

CHAIRMAN LUISI: I think it will depend. Given the interest of not having this included in Addendum XXX; which the original motion would have done, to me I think the priority now would be to work on the provisions of the addendum as they stand. When the Working Group has time to discuss the options for reducing noncompliance, then we'll take that up. But my first priority would be to make sure that the Addendum XXX as it has the elements

in it are developed as fully as possible; before we consider it again in December. Adam.

MR. NOWALSKY: I'll confirm that that is in fact the intention of the motion to substitute; which became the main motion, to definitely not include it in Addendum XXX, but for it to become the next task for the Working Group to address and whether that was then developed into the next addendum or whether they had some other means for moving forward to it. That would be the purpose of their task.

CHAIRMAN LUISI: Okay, I'm going to ask one last time. Is anyone opposed to staff moving forward as it was recommended and presented today regarding the Working Group recommendations on Addendum XXX? The idea being that any options that need further development will be further developed and any alternatives that were removed or modified would be done by staff for a final report at the December joint meeting with the Council for final action to moving it forward to public comment. Rob O'Reilly.

MR. O'REILLY: Just a question on the Working Group didn't really feel strongly on the catch-per-angler and was looking for other methods; and the biomass was brought up as one to look at allocation. Is the Working Group going to look at other approaches?

If that needs to be stated, I think my understanding again; from the stock assessment results were that there is abundance both south and north of the Hudson Canyon. But it's going to be the biomass that is more pronounced north of Hudson Canyon. Could the abundance stream be looked at as well? It should be available, and I just wonder if that needs to be specified today.

MR. ROOTES-MURDY: We don't need a motion for it, but it would just be great to know specifically what you want explored in this

option. We can talk offline if that is best. But the more clarity we can get the better.

MR. O'REILLY: That would be fine, and I will look forward to not having a conflict for the next Working Group.

CHAIRMAN LUISI: All right seeing no one opposed we're going to move forward as I just stated, and Rob you can work with staff on further developing the portion of that option that you mentioned of that abundance.

#### **REVIEW THE PRELIMINARY 2017 RECREATION HARVEST ESTIMATES THROUGH WAVE 4**

CHAIRMAN LUISI: We're going to move on to our next agenda item; which is to Review the Preliminary 2017 Recreation Harvest Estimates through Wave 4. This was something that we put on the agenda, not knowing if we would have preliminary harvest estimates through Wave 4, but we're lucky enough to have received them yesterday. Staff worked feverishly throughout the night to make a presentation here for you today; Kirby.

MR. ROOTES-MURDY: I'm going to walk the group through; as we have done in previous years, what the harvest looks like through Wave 4 relative to the previous year. Because we now have Caitlin up here with me, I'm going to deal with the summer flounder and scup harvest estimates; and then I'm going to turn it over to her. There is a little typo right now in the outline.

But I just want to stress what Mike pointed out; which is these are preliminary estimates, and they're ones that we received yesterday. The Technical Committee has not had time to sit down, digest them or do further analysis to see if there are any outliers, if there are any issues, what the PSEs are; which we also know just to note, do change from wave to wave as that information is updated throughout the year.

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Just keep all that in mind as we go through this presentation. Regarding the coastwide harvest in weight, in 2017 preliminary harvest estimates

through Wave 4 indicate coastwide harvest was 2.8 million pounds; which is below our RHL for 2017 of 3.77. It is approximately 75 percent of the RHL. Now again in weight, what this also means is that relative to the coastwide harvest at this point, through Wave 4 last year. We have a reduction in harvest by about 49 percent.

As you all are aware, we have measures that were implemented in 2017 that differed from those in 2016. But overall the coastwide harvest through Wave 4 is significantly different than what it was last year. I also have a slide up here and it's a little bit more difficult to see, with the harvest breakdown by state.

I want to point out that as we had measures implemented per Addendum XXVIII that were fairly uniform across the coast; in terms of an increase in the size limit and a decrease in the possession limit for most states. The performance so far in the year is very variable. It is not uniform by region, as you'll see highlighted in red on the screen are some states that actually increase their harvest relative to last year.

But because those states that increase their harvest contribute so insignificantly to the overall coastwide harvest it's kind of a wash. We have an overall reduction at the coastwide level. In terms of number of fish and doing that comparison of harvest from Wave 4 between 2016 and 2017, it's a similar trend.

Again, about 75 percent of the RHL when we're looking at the RHL in numbers of fish, we're using the average fish weight through the data we have. Through Wave 4 it's about 3.12 pounds is the average fish weight. In terms of what that reduction looks like relative to this

time last year, it's closer to a 50 percent reduction.

Again, this is what the breakdown looks like when looking at the numbers of fish by state and harvest. Now, in terms of our summer flounder recreational specifications. As I mentioned we have a 3.77 million pound RHL this year. That's the coastwide recreational harvest limit; which is approximately 1.2 million fish. In 2018 the recreational harvest limit is 4.42 million pounds. In terms of the percentage change, just looking at the catch limit on the coastwide level between 2017 and 2018, it is about a 17 percent increase. I'll also note that we didn't have time to do projections. We normally work with Council staff to try to pull that together, and we just frankly didn't have enough time to do that today. I will point out that what we do know is that many states have their fishery that are significant harvesters closed through the end of the year.

There is a good chance that the numbers won't change significantly from what they are currently. But we still need to do that analysis, and we'll be reporting that out in December. Next I'll move on to scup. This is just a very brief breakdown of what the harvest is in numbers of fish and in pounds; relative to the RHL.

Similar to last year, in terms of how we've performed relative to the RHL, we're just at about 50 percent of the RHL. In terms of the overall harvest though, we have decreased from last year. In numbers of fish it is about a 1 percent decrease. In terms of looking at harvest in weight, it's actually about a 21 percent reduction in harvest. With that I'll turn it over to Caitlin to go through black sea bass.

MS. CAITLIN STARKS: Looking at the comparison from 2016 to '17 for the coastwide harvest, it's looking like at the coastwide level there is about a 23 percent reduction in harvest through Wave 4. As you can see the northern

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region shows a 25 percent decrease, and the southern region excluding North Carolina, because at this point we don't have post stratified numbers, is increasing 31 percent.

But I do want to note that the southern region is harvesting an order of magnitude less than the northern region. Don't focus too much on the percentage; focus more on the coastwide harvest being smaller this year. That puts us this year at 60 percent of the RHL, whereas last year at this time it was around 119 percent. In numbers of fish we still have the same reduction; but smaller, using the average fish weight of about two pounds in 2016. That's pretty much it.

MR. ROOTES-MURDY: Moving on, I've just got a reminder of where we stand regarding our RHL this year to next year. When looking at the 2017 RHL we're at 4.29; as I mentioned in our last presentation it is a big increase from where we were in 2016. Then we're looking at a reduction just at the coastwide catch limit for 2018; relative to 2017.

In terms of recreational management options for 2018, I want to remind the Board that we went through this for a number of these species back in August. Today there is not the need for any specific motion. We have a number of options for these species. For summer flounder there is the FMP status quo or state-by-state conservation equivalency.

Additionally as an option there is the ability to extend the current provisions of Addendum XXVIII for an additional year. Black sea bass there is the FMP status quo; which would specify a coastwide set of measures in both state and federal waters. As noted in my earlier presentation staff is working with the Rec Working Group on developing Draft Addendum XXX.

That will be presented at the December meeting. Then scup we have the ability for the

Board to carryover status quo regional management measures for 2018. Again next steps, no action needed today; and the Board and Council will be setting 2018 recreational specifications in December. I'll take any questions.

CHAIRMAN LUISI: No action is needed and I'm going to keep questions limited at this point; given the interest of time and other issues on the agenda. We will take a question or two; if anyone has any questions regarding the new numbers. John Clark.

MR. CLARK: Just quickly. I don't have the figures in front of me. Do the catch of the black sea bass by wave; do we typically see a lot of variation? I mean is this looking like by the end of the year we'll still be under the RHL; or do we sometimes see a lot of variation with big catches in Waves 5 and 6?

MS. STARKS: There typically has been a lot of variation in Waves 5 and 6; and we do have two states that typically harvest a large amount in those waves. I would say it's not really sure how we'll fare by the end of the year.

CHAIRMAN LUISI: Rob O'Reilly.

MR. O'REILLY: Where are we standing with the projection from 2017 through Wave 4; and knowing that the RHL is going to decline for 2018. Whereabouts is it figured that we might be, once all is said and done through Wave 6? Is that available to talk about?

CHAIRMAN LUISI: That was a perfect segue, Rob to the next item on the agenda. Brandon is going to discuss what he's been able to put forward as a projection; so that we can evaluate for what we know now where we may end up being compared to next year's RHL, to help us decide on the black sea bass Wave 1 fishery.

If you can hold your thoughts there, Rob, and again the next agenda item is black sea bass; it's

not for all other species. But we'll be there shortly. Are there any other questions for Kirby or Caitlin? Okay seeing none; let's go ahead and move on to the next item on the agenda as it was modified at the beginning of this meeting.

**CONSIDER POTENTIAL 2018 WAVE 1 OPENING  
OF THE BLACK SEA BASS RECREATIONAL  
FISHERY**

CHAIRMAN LUISI: We're going to skip over the FMP review and state compliance right now; and we're going to consider the potential February, 2018 opening of the black sea bass recreational fishery. Just to give you a very simple background on why we're discussing this again, I've had the question asked of me as to, I thought we handled this. I thought this was done.

Well, back when we met jointly with the Council at our meeting in Philadelphia in August, the question was asked and it was voted down at the Council. Given the fact that both the Board and the Council need to move in lockstep on issues like this, there was no need to take that issue up with the Commission or with the Board.

Because we were running short on time that evening, some members of the Board felt that it needed a little more time to thoroughly discuss and debate and to decide whether or not there would be an opening. It was asked of me as Mid-Atlantic Council Chair and your Board Chair here today to put this back on the agenda.

It was put back on the agenda at the Council meeting last week; and the Council supported what you're going to see after Brandon's presentation, which is a motion that will need to be taken up and considered by the Board today. I will state that once the motion is brought forward to you, there can be no modifications to the motion. I'm going to look to the Board for somebody to make that motion and second the motion. But unlike a typical

motion, because again the Board and the Council need to move in lockstep with one another on these issues, it cannot be modified. If it is to be modified we'll have to take it back to the Council; and that will further delay any action, which will make it impossible for a February opening. With all of that said, Brandon is ready to go; and I'm going to turn to Brandon for his presentation.

MR. BRANDON MUFFLEY: I'm going to present the same information that I gave to the Council last week; with a few changes to the end. Last week I presented some projections and some information through Wave 3; and what those implications may mean for the rest of the fishery, and as you consider Wave 1.

Since we do have the Wave 4 estimates, I updated everything. I created some new projections to evaluate what the harvest may look like through the rest of 2017. But again noting that I have not done a thorough evaluation of looking at PSEs and variability within some of those estimates, it's kind of taking the raw information, running some projections to see what we may be looking at for the rest of the year.

I just will sort of highlight that and I will when I get to those slides later on. The Council and Board have talked a lot this year about Wave 1. I think almost every meeting so far this year we've talked about implementing a Wave 1 fishery in 2018. Just a quick refresher of where we are. It sort of started in February when we got the new benchmark stock assessment information; indicating stock was robust and fishing mortality was low.

There was consideration then to move forward with an exempted fishing permit for 2018. When the Board and Council met jointly in May, you all decided not to move forward with an EFP, but considered development of a letter of authorization program. That started in May, but after discussing after that meeting there

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was going to be no way to get a letter of authorization program in place for 2018.

If there was still interest in having a Wave 1 fishery, you needed to do it through the specification setting process. That was discussed at the June meeting. You all met in August and considered the Wave 1 fishery for 2018 through the specification process; and there were a few different options that were voted on, and none of them were approved.

But since then as the Chairman indicated, there has been some more discussion since then and reconsideration; and specifically what was discussed as what we would consider would be a February season. A season from February 1 through the 28th, a 15 fish possession limit and a 12.5 inch minimum size.

The analysis that I did on the next slide looked at considering this specific Wave 1 fishery for 2018. I will state that we will be talking about a Wave 1 fishery again when we meet in December. That will be the first framework meeting for the letter of authorization program; so we'll have information then, in terms of what that may begin to look like for a 2019 Wave 1 fishery. The Wave 1 discussions won't end after today.

This was information that you've seen. This was part of my information when we talked in May; and a similar analysis was done when we talked in August. I needed to try to come up with what harvest may look like in 2018 if we were to have a Wave 1 fishery. The only information that I had available to me was federally permitted for-hire vessel VTR information. I took that information that we had. I looked at it from all of the data that we had; but I really relied on the 2013 VTR data. That was the last time we had a Wave 1 fishery. I'm applying what we saw in 2013; and using that information to project what harvest might look like five years later in 2018.

Just sort of keep those caveats in the back of your mind. I looked at a few different participation scenarios; not knowing what participation may do. It had been increasing over time the number of vessels participating in the Wave 1 fishery from 1996 through 2013 had steadily increased. But again, I evaluated a potential decline in participation all the way to continuing increasing participation.

The Scenario Number 3 that is highlighted in green. That is what the information was in 2013. In 2013 we had 39 for-hire vessels participate in the Wave 1 fishery. Each vessel took an average of six trips during that wave. They carry 26 anglers on each trip. Their average harvest per angler was 11.1 sea bass.

I used that information to come up with what the total harvest would be by the for-hire sector during Wave 1. That came out to be 137,000 pounds. That was just the for-hire sector during a potential Wave 1 fishery. I needed to try to expand that. If we were going to open up the Wave 1 fishery, the private anglers would also be available to participate.

But I didn't have any information to sort of scale that fishery. I looked at the catch in Wave 6 to evaluate that. That information had indicated during Wave 6, I looked at the average catch from 2013 to 2015, and that showed that 50 percent of the black sea bass catch in Wave 6 was from the private sector and 43 percent was from the for-hire sector.

What I had done back in August, I had dropped that a little bit and assumed that private angler participation would likely continue to decline in Wave 1; given weather and the time of the year and where the fish are available further offshore, and I said it was 50/50. That's what I used to scale that information.

I did receive some additional input after that meeting to evaluate Wave 2; that Wave 2 might be more reflective of what Wave 1 might be, so

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I did look at that as well. Black sea bass hasn't been open a whole lot in Wave 2 the last number of years, so I had to go back. I looked at from 2002 to 2012, I looked at the catch during that time period and found that 42 percent of the harvest in Wave 2 was for the private sector, and 58 percent was for the for-hire sector.

The 50/50 ratio that I ended up using is kind of right in the middle of what we found in Wave 6, versus what we found in Wave 2. I felt that was still an appropriate approximation to scale what the private mode harvest might be in Wave 1. If you take that you would get a total harvest in Wave 1, assuming again the same for-hire participation; that would give you a harvest of 275,000 pounds. That was if the entire Wave 1 fishery was going to be open.

Then I used the proportion of harvest in Wave 1 in February and the average February harvest per day; to come up with what the harvest might be just on a February 1 to February 28 season. Under a similar participation rate that we saw in 2013, I estimated that harvest during Wave 1 would be about 101,000 pounds. That is kind of where we were. Again, I just want to highlight that I'm applying 2013 data and what things might look like in 2018. I think availability is likely different now than what it was in 2013; and what participation might look like. Again, I tried to provide a range of what participation may be; but that's going to be sort of unknown, in terms of how high of an interest there may be during that time period. There are a lot of numbers up here; but again, it is tables that you all have seen.

Any harvest that takes place in Wave 1 needs to be accounted for. Therefore, modifications to the rest of the recreational season would need to be made to account for that. In the memo that was provided in the supplemental materials, this is Table 2 on Page 4 of the memo. Again, I looked at reductions that would need to be taken at a coastwide, at the federal

or the southern region level, or at a state-specific level.

Generally you're looking at anywhere, under any of these different scenarios, a minimum of one day would need to come off to a maximum of about four to five days on some of the higher harvest estimates. You're looking at anywhere from 2 percent to 4 percent of the 2018 RHL would be allocated to this Wave 1 fishery in 2018; under a February only season.

That is generally what you're looking at in terms of implications; what harvest might look like. This is the projections and estimates through Wave 4. I did provide a breakdown here. Looking at comparing 2016 to 2017 by state, so that you can see where some of the changes have been. Again, through Wave 4, just as Caitlin had mentioned, we're 15 percent lower in terms of numbers of fish and 23 percent lower in total weight.

This does not include North Carolina, no slight to North Carolina, but I didn't have the SAS code to post stratify that information. North Carolina, in terms of their black sea bass landings north of Hatteras is only, the last few years is like 1,500 pounds. It's not a major player, in terms of what we're looking at; so it wouldn't modify what we're looking at here.

I did run some projections looking at the average proportion of Wave 3 and Wave 4 harvest from 2014 to 2016. Assume that those two waves would make up a similar proportion of harvest in 2017; which is about 65 percent of the overall harvest occurs in those two waves over the last three years, assuming that I came up with a projection for 2017 of 3.97 million pounds.

Again, as there was a question about the variability within Wave 5 and 6, as Caitlin pointed out, the last few years those estimates have been highly uncertain. We have probably the most uncertain estimate ever during that



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time period last year. There are significant states that are open in Wave 5 and 6.

Again, these are very preliminary, A, in terms of just its evaluation and 5 and 6, we still have about 35 percent of the harvest to still be accounted for in Wave 5 and 6. Under those caveats that's what I came up with as a projection for harvest for the rest of the year. If that were to play out that would put us at 7.5 percent below the 2017 RHL. When we compare it to the 2018 RHL we're about 8 percent over that.

Just to wrap everything up. When you are considering this, again I kind of talked about all of those harvest analysis caveats that I kind of mention in using the VTR data how I scaled VTR data to the private sector. What effort and participation is going to be are all sort of uncertain at this point in time. But generally, using those sorts of caveats, it looks like a Wave 1 fishery would account for anywhere from 2 to 4 percent of the 2018 RHL. I just showed you the preliminary 2017 harvest estimates and the projections. Again, any harvest that is allocated to Wave 1 needs to be accounted for; and would be on top of any reductions, if there are any reductions necessary through the rest of the fishery. It's been pointed out on a number of occasions that there is no data collection program in place during that time.

It's self-reported VTR data is the only information data that we have, so collecting additional catch and effort information during this Wave 1 fishery would be really important; in terms of evaluating how successful and what the implications of this Wave 1 fishery may be. Lastly, I just put up there, this is the motion. I think it will come up under a different screen so that we can modify it, or so that the Board can also consider it.

But this is the motion that was approved last week by the Council. It goes beyond just implementing specific measures for the Wave 1

fishery. It also talks about how much would actually be allocated to that Wave 1 fishery. It also does indicate that any adjustments that are needed to the rest of the recreational season would only be applied to those states that actually participate in the Wave 1 fishery. With that I'll take any questions.

CHAIRMAN LUISI: Thank you for your presentation, Brandon. Well, let's do this. Let's take a couple questions on specifics regarding the analysis. If we get too far into the weeds, as to something that might be different from what the motion is, I'm going to cut off the question asking and we'll put the motion on the screen. Then we can speak to the motion. But I saw John Clark first.

MR. CLARK: I guess actually I was just curious about the motion. Do you want to wait on any questions about the motion and how it would affect regulations?

CHAIRMAN LUISI: Yes. If anyone has any questions about how Brandon got to his projection, which I guess Rob that was to your question before. I will say that at last week's Council meeting the Council received a projection that was much different from what the projection is now. It was a much higher reduction that was going to be needed, based on Wave 3 estimates.

Now that Wave 4 is available it has changed that. You are receiving slightly different information from what the Council received, but it's all in the same line of information; it's just some of the numbers have been modified. But let's hold questions for just specifics regarding the analysis. Anything regarding the motion, we'll take up those questions once the motion is made by the Board; any questions? Emerson Hasbrouck.

MR. HASBROUCK: Thank you Brandon for your presentation. The question I have is you had mentioned that 2013 was the last year that

there was a Wave 1 fishery, and you used that as a basis to project these estimates forward into 2018. What was the source of that catch data in 2013? Was that also self-reported VTR data, or were there intercepts that were conducted during Wave 1? Then I have a possible follow up, depending on the answer.

MR. MUFFLEY: That's strictly self-reported for-hire VTR data. That was the only information that I had available.

MR. HASBROUCK: Then do we have any idea how realistic those reported catch numbers are?

MR. MUFFLEY: No. I mean that was part of the discussion when we were talking about an exempted fishing permit, and could be part of the LOA program is sort of validating some of that information that is being reported on the VTRs; because we just don't have any verification of that VTR information that's coming across. It is what it is just as it is on the commercial side, on some things where we don't have observers onboard. It's all self-reported, no validation.

CHAIRMAN LUISI: Are there any other questions regarding specifics? Okay seeing none; I'm going to ask that we put the motion up on the screen. As I mentioned before, this is the exact motion that was made and supported at last week's Mid-Atlantic Fisheries Council meeting. I'll now look to the Board for any Board member that would like to make the same motion. Adam Nowalsky.

MR. NOWALSKY: Would you like the motion read?

CHAIRMAN LUISI: Please.

MR. NOWALSKY: **Move to recommend National Marine Fisheries Service open the black sea bass recreational fishery in federal waters from February 1, 2018 through**

**February 28, 2018, with a minimum size limit of 12.5 inches and a per person daily possession limit of 15 fish. Based on staff analysis, the 2018 recreational harvest limit that applies to the remainder of the fishing year will be reduced by the preliminary estimate of 100,000 pounds to account for expected catch during the February season.**

**Adjustments to the 2018 recreational measures to account for this estimated February catch will be required only of states that participate in the February fishery.** If I get a second, Mr. Chairman, and have the opportunity to speak to the motion, it would be greatly appreciated. Thank you.

CHAIRMAN LUISI: Okay, so we have a motion made by Mr. Nowalsky; do I have a second on the motion, seconded by Rob O'Reilly. Adam.

MR. NOWALSKY: Let me first begin by again thanking Board leadership and Council leadership, staff for the effort that has gone into this. As was mentioned, we did run up against quite a bit of time constraint in Philadelphia, and we certainly had the opportunity to flesh this out a bit more; for which I am extremely gracious.

In speaking to a number of Council members and Board members since that August meeting, a number of issues some of which have been already discussed here today, one of which has been the need for monitoring during that time period. New Jersey has three large vessels, approximately 100 foot in length that has the ability to prosecute this fishery.

Our state's Bureau of Marine Fisheries has been willing to dedicate two technicians during the month of February to run trips with those vessels, to help validate catch data onboard the vessels. We're also able to implement a for-hire logbook survey in this fishery. It's currently in place for our striped bass fishery, and we can

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extend it to our other for-hire fisheries that may participate.

We're also able to do rack collection during the timeframe, to get some more biological information. We expect all of this information would help address the concerns that people around the table have regarding the need for better science during this time period. We also think that these steps that we put in place will certainly be a large step towards informing the letter of authorization framework process that will be taken up jointly with the Council; beginning in December.

These are all pieces of information that we need. I think this last element of the motion here, this was brought up by John Bullard in Philadelphia, was worked on quite a bit with the help of the Service. I'm extremely grateful for their time in working on it with us. I think it speaks for itself; will be required only of states that participate in the February fishery.

Essentially, those states that choose not to would be held harmless the rest of the year. There have been questions about how exactly that would play out timeline wise. My expectation would be in the coming months we would be going through our spec setting process. We've essentially started it here today with the ongoing discussions with the addendum; in more detail in December, and it will go through February, as we complete that addendum.

I know staff has worked up individual numbers for individual states that might be participating in the fishery; and so those states that declare an interest as we go through the Addendum XXX process, this number would be accounted for moving forward there. Lastly, I'll simply offer again the magnitude of what this fishery is. We're talking about 100,000 pounds potentially out of a fishery with a near 50 million pound spawning stock biomass.

We've got the opportunity to provide some fishing days, provide public access for something that is sorely needed. We heard comments earlier at the outset of the meeting about what closures have done to the industry. We've got an opportunity to get science. We've got an opportunity to inform the LOA process we've already agreed to embark on, and we're holding harmless those states that choose not to participate.

CHAIRMAN LUISI: Rob O'Reilly as seconder, would you like to add to Adam's comments?

MR. O'REILLY: Yes. Well, Adam has covered a lot of what Virginia thinks about this as well. Of course we would have a public hearing. If this motion passes we still would have to go through that process. We do have the capability to do sampling. We do have a freezer collection program; Adam mentioned the racks.

Not to go into a lot of details, but there would be several items that would have to go forward; in order for someone to participate, including a haul in, so that if law enforcement wanted to be available they could; but mainly so that the biological collections also could take place. Virginia has been interested in a Wave 1 fishery since December of 2013.

I think most of you understand that by 2015 the climate changed quite drastically. One of the main concerns at the Mid-Atlantic Council was the data collection. I agree with Adam that this will be a setup for the LOA program; in that whatever data can be collected will be advantageous for 2019.

The other part of reticence that at least I sensed was that now we're talking about perhaps an 8 percent overage, which was greater at the Council meeting, I agree with that. Some will think, well what does that mean as we go later into the waves. But please know as Caitlin mentioned earlier, the DelMarVa situation is not only an order of magnitude less, in terms of

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the ability to harvest, but it's a little more than that quite frankly. It's been that way really since 2010. I thank you for the time.

CHAIRMAN LUISI: Questions, comments on the motion, John Clark.

MR. CLARK: I like the fact that the adjustments to the 2018 recreational measures will be required only of states that participate; but it's just more of a question of how this whole thing would work. I mean when we discussed this with anglers and headboat captains in Delaware, they were very concerned about Brandon's projections here; showing that if his Scenario 3 took place that we would lose four days in Wave 3, or three days in Wave 5. They weren't willing to trade those days in those waves for the possibility of fishing in February.

I understand what this motion would require only those states to do this if there were cutbacks required. But how would that work with states like Delaware, Maryland or Virginia that set the regulations based on the federal rules and have to abide by whatever the federal rules are; and do pretty much all their black sea bass fishing in federal waters? Do we have a guarantee that federal rules would not change, but only the states that go over this? I just don't understand how this whole thing would work; and is there any way to clarify that?

CHAIRMAN LUISI: There are no guarantees in life, John. Somebody must have said that to you many, many, many years ago.

MR. CLARK: I know there are no guarantees. I just meant that obviously to get to this point I'm assuming that NMFS has looked at this. How would they enforce the overages on the states that actually participate in this; without affecting the regulations out in the federal waters that Delaware, Maryland, and Virginia would have to abide by?

CHAIRMAN LUISI: I'm going to offer my thoughts and then I might look down the table to Lindsay to add. We've been having these conversations, and you bring up an excellent point, John about how it will work. We have the potential for states that want to participate in this fishery to be held accountable to some degree to the 100,000 pounds being offered in the motion.

We also have Addendum XXX that is currently in progress, and it may assign regions to specific states in moving forward for 2018. Those are two things that somewhat complicate the issue. I would like to be able to tell you exactly how this will work. The way I foresee it taking place is that if a state wants to participate, there would have to be a decision by the Board at some later time; as to how that 100,000 pounds is accounted for by those states that participate.

Is it equal across the board? If it's just one state, obviously it will be 100,000 pounds. If it's five states how are we going to divvy that accounting up? That is something that the Board will have to discuss at a future date. As far as how it will apply to the federal rules, I think that there might be an opportunity for some modifications to the federal rules.

That under Addendum XXX would allow for the federal rules to be more liberal, and the states under the umbrella of more liberal federal regulations would then be able to work through Addendum XXX to establishing their limits. Now, Delaware, Maryland, Virginia, even North Carolina I believe, we have just gone forward each year with what those federal rules have been. What I'm saying here is that there might be an opportunity at the December meeting when we're setting specifications, to set federal rules from May 1, let's say, through December 31, with no closure. Then that opens the door for states having the flexibility under Addendum XXX to make modifications within their region, or at the state level, and take and absorb the

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100,000 pounds in some ratio; if you would choose to participate. Now that is how I'm seeing it happen. But I could be way off. In discussions I've had with GARFO that is where we might be. John.

MR. CLARK: I just don't want to be in one of these damned if you do, damned if you don't situations; where if we don't participate and the rules change in federal waters, we're going to catch heck from our fishermen that want to know why we didn't open in February, and take advantage of that or why we now have a shorter season and we didn't even fish in February. It's kind of a tough situation right now; without knowing exactly what will happen at this point.

CHAIRMAN LUISI: Yes John, I think because we haven't finalized Addendum XXX there are questions still. The scenario you're suggesting would be one for which, if we were to follow through as a Board in establishing a DelMarVa region, and let's just say Virginia participates. But the Board also decides that all of the states within a region need to have the same regulations; and that's something that the Board decides on.

Well, then we won't be able to do that if Virginia participates and Delaware and Maryland don't; because we're going to need the same regulations, and Virginia will need to be accountable for part of this. The later decisions that we're going to make, make this more complicated, but it's all tied together; and that's the best I can do to offer an answer for you, John. Chris Batsavage.

MR. BATSAVAGE: Thank you for the explanation; as far as how that will work out with the states choosing to participate versus not, if this motion passes. Quickly, we support this motion. Besides the reasons given already and despite the fact we have a pretty recreational fishery north of Hatteras.

We're the only state on this Board that has Wave 1 MRIP sampling, and we've had it since 2004. We've been closed since 2013, despite our ability to sample that wave and the money we spend on those efforts. But with that if this motion passes, we have the ability to collect biological information through the dockside intercepts; and likely could collect carcasses through our statewide carcass collection program.

CHAIRMAN LUISI: Nichola Meserve.

MS. MESERVE: I think when Brandon was referencing the motion he said that 100,000 pounds would be allocated to February; but I just want to be clear that it's not really an allocation in the sense that the fishery would close when what limited information is available would indicate 100,000 pounds has been landed, nor would the participating states be accountable for a catch above that level later on in the season.

I ask that question, because I think we have every reason to believe that harvest is going to be greater than the projected 100,000 pounds. That was the middle of the road estimate based on 2013. Effort is most likely going to be greater; as other fisheries like fluke have been constrained. Availability of sea bass has increased. The 2015 year class will begin recruiting to the fishery next year. I fear that those participating states are going to have a lot more benefit than they're being held accountable for; and those states that don't participate will see none of that. That's not because we don't want to participate and have this option, but it doesn't do anything for us based on our geographic location. I'm also concerned about the interplay of this option with Addendum XXX. I believe it jeopardizes the good work, the good progress that we're making on trying to bring about more uniform regulations along the coast to address the equity issue.

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Then I also have questions about how our constituents are going to respond to a February, 2018 fishery that is opened to everyone, followed by a February, 2019 LOA fishery that is only opened to certain people; as of yet to be determined. I think we're getting ahead of ourselves, trying to do this this year, with too many questions unanswered about how much harvest is going to result. We'll never know, and jeopardizing the Addendum XXX initiative.

CHAIRMAN LUISI: Doug Grout.

MR. DOUGLAS E. GROUT: I would like someone to help me out here. I've heard in determining how we're going to actually get an estimate of what is actually harvested here. I've heard Adam say that there will be a logbook in New Jersey, or there is a logbook and they'll have observers out there to help validate. Does that requirement apply to all for-hire boats up and down the Mid-Atlantic area that may want to participate in this fishery?

Then how would the private boats, however few there may be how does their catch get accounted for outside of North Carolina; which has a Wave 1 intercepts? How would that be accounted so that we have data on the harvest that would go into the stock assessment? Can anybody enlighten me on that as to where we get the information on that?

CHAIRMAN LUISI: Doug, it is my understanding, the way that GARFO is interpreting this motion that the 100,000 pounds will be what states will be held to regardless of what estimate comes from data collection; as far as VTR data. That is the only source of information; other than the North Carolina Wave 1 work that will go towards estimating what was caught.

Brandon spoke to the fact that it is voluntary VTR data. But that is all we'll have. Now, to the points made about well, what if the harvest is more than 100,000 pounds and we learn that a year later; when we bring all the information

that we have together, and determine that 200,000 pounds were caught.

Well, it's my understanding that the way that the GARFO is looking at this is that the states will not have to pay any additional accountable measures back for anything over; 100 is 100, and that is what it's going to be, 100,000 will be 100,000. Regarding private angler, there won't be private angler data collected.

While there might not be very many private anglers participating, it's possible that there could be some. These are some of the concerns. These are some of the problems that we've discussed many times about a system that has the accountability that a Wave 1 opening has. I'll look to Brandon or Caitlin or Kirby to add anything. But I think that is where we stand on this at this point, as far as information and what we know. Doug.

MR. GROUT: We have volunteer VTR data that is going to be used for this? Is that what I just heard that they don't have to report it? I know we've got mandatory coming in probably later in the year.

CHAIRMAN LUISI: Yes, I may have misspoken. Brandon.

MR. MUFFLEY: I mean it is mandatory VTR, it is self-reported though. There is no validation to what is being reported, but it's mandatory that that information be provided.

CHAIRMAN LUISI: That's what I meant.

MR. MUFFLEY: Federally permitted for-hire vessels.

MR. GROUT: The for-hire vessels will be covered; at least there will be some numbers that they will provide. At least in New Jersey there will be some kind of validation of that; according to what I thought I heard Adam say. But there won't be any MRIP data for PR, for

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private rentals outside of North Carolina in there; so we'll have a gap in that information. Okay thank you.

CHAIRMAN LUISI: Yes I think your understanding is correct, and thanks for correcting me. I did misspeak. Towards New Jersey's suggestion for, I don't know if it's necessarily a validation but more of a ground truthing of what's coming in; regarding the sampling that they would be conducting. We have a few more people on the list.

I am going to limit discussion to some degree. We're over our allotted time on this agenda item; and we still have FMP compliance to deal with. This has been a conversation we've had many times over the year. I don't think we need to debate it very much longer. I'm going to go to Emerson and then David Borden and I may take one or two more comments. Then we'll call the question. Emerson Hasbrouck.

MR. HASBROUCK: I had several issues, but I'll limit it to two issues because of time.

CHAIRMAN LUISI: I'm sorry, Emerson.

MR. HASBROUCK: One of my comments is kind of directed at something that you said, so I wanted you to finish your conversation with Toni; that's okay. You had mentioned how we're going to have to get together and decide how that 100,000 pounds is going to be partitioned among whatever states might be interested in participating in this. I'm just wondering when that might occur. I mean February isn't very far away.

That was one issue I wanted to raise; and the other is I've heard what New Jersey has planned for them to participate. I've heard that North Carolina already has MRIP sampling in that state during Wave 1. I'm just wondering if there are any other states around the table who are interested in participating in this; who might be

able to provide some information in terms of how they're going to quantify the harvest.

CHAIRMAN LUISI: Okay so Emerson to your first question to what I stated earlier. I'm not sure when we'll have that conversation. It will need to be had before states set forth their recreational measures for next year; and that will come as a result of the decisions made through Addendum XXX. At some point, before states implement new rules, the Board will have to discuss that. There are two Board meetings, one is in February and one will be in December. That is all I could offer as far as with the timing. That is when it will need to happen. I'll speak for Maryland. We will not be able to sample our port in Ocean City during that wave. If we were to participate we wouldn't be able to sample. Okay Rob, I'm going to come back to you. I have David Borden then Rob O'Reilly and David Bush.

MR. BORDEN: A lot of the points have already been made, but I'm concerned about the lack of specificity on some of the elements here. In the interest of time I won't go into that; because some of the other people have talked about it. I'm also concerned about having a volunteer data collection program without making sure that if we're going to have that type of system that it's standardized across all of the participating states. I think that's going to be kind of critical.

My final point, I'm also concerned about the overage. Your statement in particular that if there is an overage beyond 100,000 then it's not going, the way I understood your statement it's not going to apply to the participants; which means it's eventually everyone in this room that is going to be held accountable for it. I'm opposed to the motion.

CHAIRMAN LUISI: Rob O'Reilly.

MR. O'REILLY: I wanted to address Emerson's request there. As I said earlier, Virginia is

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prepared to do sampling and has started the sort of an approach to recreational reporting; which is mandatory, just out of the gate has a year under the belt so far. Compliance is about almost 60 percent with cobia. That is why we started all this specifically, although we have striped bass and blueline tilefish.

The pool of effort is going to be rather small. There is a very limited number of headboats in Virginia. There are a few private anglers that we've heard of that would be availing themselves of this opportunity. I realize we get dug in to our perceptions, but the past is always present; and I certainly remember sitting with Toni Kerns in 2010; when we had a blowout of the RHL by Wave 4, and Toni and I were able to figure out a path forward.

That path forward included Delaware, Maryland and Virginia; which it was during the time of conservation equivalency, foregoing any liberalization, and some of that liberalization was quite remarkable. Foregoing that liberalization so that the states north of us did not have to suffer the penalty, so that is 2010 that is not 1998. That is 2010, seven years ago. I'm wondering about some of the comments as to, are they really concerns or are they something that maybe shouldn't be concerns?

CHAIRMAN LUISI: David Bush.

MR. DAVID BUSH: Generally in support of this. I know that we did discuss the data collection concerns that we had. Now, if I understand this correctly all this is, is simply the directive to open up this fishery. Once this goes through we'll have to actually spell out how to execute that fishery; and if that's correct, would there not be the possibility of states wishing to participate some sort of data collection of some sort? Whether it be mail in, whether it be something, would that be an option at that point?

CHAIRMAN LUISI: David, I think if a state can offer more there wouldn't be anything stopping them. Like you said, if this is supported essentially the Commission and the Council will be recommending to National Marine Fishery Service to open federal waters to black sea bass fishing in February.

What the states do from there will be on them. There will be no requirement to put forth a data collection effort on the states, even if they do participate. It's been suggested that some states will do that. They have the means and the interest to do that. Others will or will not. Does that answer your question?

MR. BUSH: Yes thank you.

CHAIRMAN LUISI: Okay, I'm going to take one last comment and I'm going to come back to you, Adam. I know you had your hand up. After that we're going to caucus for a minute and we'll call the question. Adam.

MR. NOWALSKY: Again, thank you very much. I think this is all very good discussion. Frankly I haven't heard any point raised that hasn't been discussed with people that I've spoken about with this issue. Again, it's not going to be a sense of no accounting. We'll have the VTR data, and then that VTR data will use past relationships between the for-hire sector and the non for-hire sector to go ahead and establish an estimate of the overall recreational catch for that period.

It's not going to be just a free pass for the non for-hire sector; it is being accounted for. I have to go back to the fact that we've got the Services support on this; and this motion incorporates a lot of their concerns. That is something that provides a level of assurance that they are confident that we can move this forward through the regulatory process.

Otherwise, they would be wasting their time putting together a proposed rule that they



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didn't think they could ultimately promulgate. Let me finally close with the idea of this winter fishery, and the potential for it to be large. We deal with snowstorms and frozen slips, and bait dealers that are closed. Haul-out provisions in insurance policies, mariner operators that go to Florida for the winter.

You go after the first of the year and participation just goes to zero. Those vessels that do or fishermen that do still want to participate, they want to get on a headboat. For those states that have talked to your own for-hire operators, and maybe they're not going to participate themselves.

You may have a lot of fishermen in your own state that you haven't heard from that would really love the opportunity to go ahead, jump in the truck on a cold winter morning, get in a heated bunk, take advantage of a heated handrail, and take some fish home out of a biomass that's 230 percent of its target.

CHAIRMAN LUISI: Let's go ahead and caucus for a minute; we'll come back, read the motion and vote. I apologize to the public. This is not a new issue. We've heard much public comment on this issue so far, so we're going to skip that and go right to the vote. I'm just waiting on staff. I believe we've been asked to do a roll call vote; so as soon as we're set. I'm going to ask Kirby to call the vote.

MR. ROOTES-MURDY: As noted this is a roll call vote. We're going to go south to north starting with North Carolina.

MR. BATSAVAGE: Yes.

MR. ROOTES-MURDY: Commonwealth of Virginia.

MR. O'REILLY: Yes.

MR. ROOTES-MURDY: Potomac River Fisheries is not present. Maryland.

MS. DEAN: Yes.

MR. ROOTES-MURDY: Delaware.

MR. CLARK: No.

MR. ROOTES-MURDY: New Jersey.

MR. NOWALSKY: Yes.

MR. ROOTES-MURDY: New York.

MR. JOHN MANISCALCO: Abstain.

MR. ROOTES-MURDY: Connecticut.

SENATOR CRAIG A. MINER: No.

MR. ROOTES-MURDY: Rhode Island.

MR. BALLOU: No.

MR. ROOTES-MURDY: Commonwealth of Massachusetts.

MS. MESERVE: No.

MR. ROOTES-MURDY: New Hampshire.

MR. GROUT: Abstain.

MR. ROOTES-MURDY: U.S. Fish and Wildlife Service.

MS. SHERRY WHITE: Abstain.

MR. ROOTES-MURDY: National Marine Fisheries Service.

MS. LINDSAY FULLENKAMP: Yes.

CHAIRMAN LUISI: **Okay our count here is 5 in favor, 4 no votes, 3 abstentions; the motion carries.** That recommendation will be made on behalf of the Council and the Commission to National Marine Fisheries Service.

**CONSIDER APPROVAL OF THE SCUP FISHERY  
MANAGEMENT PLAN REVIEW AND  
STATE COMPLIANCE REPORTS**

CHAIRMAN LUISI: We're going to move on to our last agenda item. Given the interest of time, I've decided that we are just going to go through the scup compliance and FMP report; so we'll deal with summer flounder and black sea bass at a later time. Because of the issue with compliance in the scup fishery I'll turn to Kirby for that.

MR. ROOTES-MURDY: We have adjusted our PowerPoint; we're just going to focus on scup today as noted. Regarding compliance and de minimis request the Plan Review Team notes that Massachusetts measures are not consistent with those in the FMP; specifically with regard to the minimum mesh requirements and the threshold triggers regarding the bycatch fishery, or the bycatch provisions excuse me in the state's wood fishery.

Initially the Plan Review Team also noted that Rhode Island's measures were not consistent with those in the FMP regarding the minimum mesh and escape vent size requirements. Rhode Island's staff has followed up and actually provided us with updated information. They have noted that their information in their compliance report was incorrect; and therefore with the updated information they are consistent with the plan.

We have one request for de minimis from the state of Delaware. Then the last point, as there was an extensive PRT review the state compliance report should expressly list all required regulations and whether they are in compliance with the FMP. We had some challenges with that this year; and that pots and traps should be separated from other types of gear in the commercial harvest by gear table. With that I'll take any questions.

CHAIRMAN LUISI: Any questions for Kirby? That was quick. I didn't even hear him speak yet; any questions for Kirby?

MR. ROOTES-MURDY: As noted there was a compliance inconsistency with regards to Massachusetts regulations. They've provided a memo that was included in supplemental materials. If you have specific questions about that Dr. Pierce is available to answer them now. They've also provided us with a motion they would like to make regarding that.

CHAIRMAN LUISI: David Pierce.

DR. DAVID PIERCE: This was a bit of a surprise to me. Staff identified the fact that we weren't in compliance, and as a consequence there is a need for us to get into compliance; so I have a motion to make Mr. Chairman that gets to that particular issue. Because we have every intention of changing our rule to comply; now that we found out that there was a problem.

**I would move to postpone Board action on Massachusetts noncompliance with the scup incidental trip limits for bottom trawl vessels not meeting the minimum mesh size until the winter ASMFC meeting.** Again, if I get a second then it's just to make sure that we have some time to set things right.

CHAIRMAN LUISI: We have a motion. Do we have a second for the motion? Senator Boyle seconds the motion; discussion on the motion? David Borden.

MR. BORDEN: Yes, I'm supportive of the request, but do we actually need a motion if we just postpone approving the report until the winter meeting; it would give Massachusetts adequate time to actually put together the proposal.

CHAIRMAN LUISI: I'm sorry David, go ahead.

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MR. BORDEN: What I said was if we just postpone taking action on the report until the winter meeting, then Massachusetts would have adequate time to put together a conservation equivalency proposal. I kind of see this as being unnecessary. I would prefer just postpone approving the compliance report.

CHAIRMAN LUISI: We can do that. **David, if you would want to modify your motion to just move to postpone approval of the FMP and Compliance for scup to the winter meeting, we can just take up the whole thing at the winter meeting.**[CS1]

DR. PIERCE: If the seconder doesn't disagree then I would prefer to go in that direction. As I said, it will be fixed by the time we get to the winter meeting.

CHAIRMAN LUISI: Senator Boyle, are you okay with perfecting that motion? Let's get it up on the screen and I'll call the question. Give me one second. **Okay the motion is move to postpone Board approval of the Scup FMP Review and State Compliance Reports until the winter ASMFC meeting. All those in favor of the motion please raise your hand. It's 10 in favor, any opposition, any null votes, and any abstentions? One abstention; the motion carries.**

Okay, because we didn't receive the presentation on summer flounder and black sea bass, if it's okay with this Board we will take up that via an e-mail between now and a later date. We'll do an e-mail vote. That concludes our business. Is there any other business to come before the Board? I just wanted to thank everybody for their hard work.

#### ADJOURNMENT

CHAIRMAN LUISI: Just to note, this is my last Board meeting as your Chair. We have met probably about 15 to 16 times over the last two years, so tonight is going to go on the list that includes marrying my wife and having my two

children. This is now the next thing that makes me about as happy as can be. I look to my left. I'm going to be passing the baton to Bob; who is going to take you under his wing, and I'm sure he's thrilled about that right now. Thank you all very much. We stand adjourned.

(Whereupon the meeting adjourned at 6:34 o'clock p.m. on October 18, 2017)

***Atlantic States Marine Fisheries Commission***

**DRAFT ADDENDUM XXX TO THE SUMMER FLOUNDER, SCUP, BLACK  
SEA BASS FISHERY MANAGEMENT PLAN FOR BOARD REVIEW**

***Black Sea Bass Recreational Management in 2018***

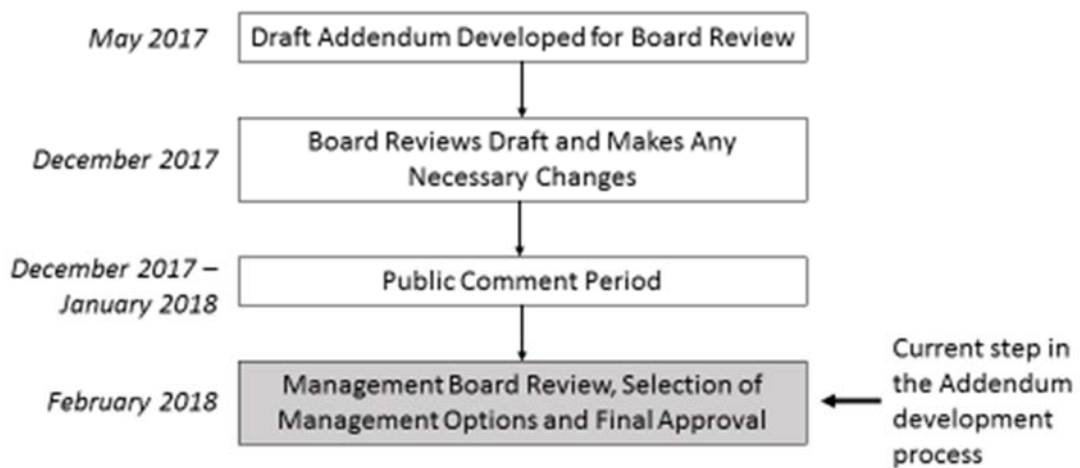


***Vision: Sustainably Managing Atlantic Coastal Fisheries***

**February 2018**

## Proposed Timeline

In May 2017, the Summer Flounder, Scup, and Black Sea Bass Management Board initiated the development of an addendum to the Interstate Fishery Management Plan (FMP) for Black Sea Bass to address the recreational management of black sea bass for 2018. This Draft Addendum presents background on the Atlantic States Marine Fisheries Commission's (Commission) management of black sea bass; the addendum process and timeline; and a statement of the problem.



# Draft Addendum for Board Review

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## Draft Addendum for Board Review

### 1.0 Introduction

This Draft Addendum proposes alternate approaches for state management of the recreational black sea bass fishery for the 2018 fishing year and beyond. The management unit for black sea bass in US waters is the western Atlantic Ocean from Cape Hatteras, North Carolina northward to the US-Canadian border.

Black sea bass fisheries are managed cooperatively by the states through the Atlantic States Marine Fisheries Commission (Commission) in state waters (0-3 miles off shore), and through the Mid-Atlantic Fishery Management Council (Council) and NOAA Fisheries in federal waters (3-200 miles off shore). This Draft Addendum is proposed under the adaptive management/framework procedures of Amendment 12 and Framework 2 that are a part of the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP).

The Commission's Summer Flounder, Scup, and Black Sea Bass Management Board (Board) approved the following motion on May 10, 2017:

*Move to initiate an addendum for 2018 recreational black sea bass management with options as recommended by the Working Group and Plan Development Team. Options for regional allocations shall include approaches with uniform regulations (e.g., number of days) and other alternatives to the current North/South regional delineation (MA-NJ/DE-NC) such as those applied for summer flounder, i.e., one-state regions.*

### 2.0 Overview

#### 2.1 Statement of Problem

The Commission's Interstate Fishery Management Program Charter establishes fairness and equity as guiding principles for the conservation and management programs set forth in the Commission's FMPs. In recent years, challenges in the black sea bass recreational fishery have centered on providing equitable access to the resource in the face of uncertain population size, structure, and distribution. In the absence of an accepted peer reviewed stock assessment, the Board and Council had set coastwide catch limits at conservative levels to ensure sustainability of the resource. Coastwide catch limits set from 2010-2016 were largely based on a constant catch approach used to maintain or increase the size of the population based on historical catch data. For 2016, a Management Strategy Evaluation was considered and approved by the Board and Council to increase both the recreational and commercial catch limits. In recent years, fishery-independent and dependent information and the 2016 benchmark stock assessment have indicated a much higher abundance of the resource than previously assumed. This presented challenges in both restricting recreational harvest to the coastwide recreational harvest limit (RHL) as well as crafting recreational measures that ensured equitable access to the resource along the coast.

Starting in 2011, the Board approved addenda that allowed states to craft individual measures to reduce harvest to the annual coastwide RHL while maintaining state flexibility. After a single year of management by state shares, the Board adopted what became officially known as the

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ad-hoc regional management approach, whereby the northern region states of Massachusetts through New Jersey would individually craft state measures aimed to reduce harvest by the same *percent*, while the southern region states of Delaware through North Carolina set their regulations consistent with the measures set for federal waters.

This approach, while allowing the states flexibility in setting their measures, created discrepancies in conservation measures that were not tied to any original management plan baseline or goal (e.g., state allocations). Inequities resulted in how much of a harvest reduction states were addressing through their measures, with no accountability for the effectiveness of regulations. Most visibly, the ad-hoc approach did not provide uniformity in measures nor in evaluating harvest reductions.

### 2.2 Background

The black sea bass recreational fishery is managed on a “target quota” basis. Fifty-one percent of the total allowable landings are allocated to the recreational sector as the coastwide RHL. Regulations are established each year that are projected to restrict harvest to the RHL; however, due to the timing of when recreational harvest estimates are available, the recreational fishery is not subject to a “quota” closure (like the commercial fishery). The Marine Recreational Information Program (MRIP) is the primary source of recreational catch and effort data used to manage the fishery.

From 1996 to 2010, uniform coastwide size, season, and bag limits were used by the Commission and Council to constrain the recreational fishery to the annual RHL. Over time, the states grew concerned that the coastwide regulations disproportionately impacted states within the management unit; therefore, the Board approved a series of addenda which allowed for state-by-state flexibility, first through state shares in 2011 and then through the ad-hoc regional management approach for 2012–2017. The northern region states have been subject to harvest reductions in all years except 2012 (liberalization) and 2017 (status quo), while the southern region states have been largely status quo. Approximately 96% of the coastwide harvest comes from the northern region states; therefore, the Board has differentially applied the required reductions between the two regions. The states’ regulations for 2017 are provided in Table 1.



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**Table 1. State by State Black Sea Bass Recreational Measures for 2017.**

State	Minimum Size (inches)	Possession Limit	Open Season	Total Days Open
Maine	13	10 fish	May 19 - September 21; October 18 - December 31	201
New Hampshire	13	10 fish	January 1 - December 31	365
Massachusetts	15	5 fish	May 20 - August 29	102
Rhode Island	15	3 fish	May 25 - August 31	191
		7 fish	September 1 - September 21; October 22 - December 31	
Connecticut (Private & Shore)	15	5 fish	May 1-December 31	245
CT Authorized Party/Charter Monitoring Program Vessels		8 fish		
New York	15	3 fish	June 27- August 31	188
		8 fish	September 1- October 31	
		10 fish	November 1 - December 31	
New Jersey	12.5	10 fish	May 26 - June 18	157
		2 fish	July 1 - August 31	
		15 fish	October 22 - December 31	
Delaware, Maryland, Virginia, and North Carolina, North of Cape Hatteras (N of 35° 15'N)	12.5	15 fish	May 15 - September 21; October 22 - December 31	201

Note: cells are shared to help with table readability and do not indicate regional alignment.

### 2.3 Description of the Fishery

Black sea bass are a popular recreational fish in the Mid-Atlantic and Southern New England regions. Most recreational harvest occurs in the states of Massachusetts through New Jersey (Table 2 & 3, Figure 1). In 2016, these five states account for 94% of all black sea bass harvest in the management unit (Maine through Cape Hatteras, North Carolina).

Since 2008, the majority of harvest has occurred in state waters (Table 4). In 2016, 67% of recreational harvest of black sea bass (by weight) occurred in state waters. In general, the majority of harvest from New York north is from state waters, while the majority of harvest from New Jersey south is from federal waters. Also since 2008, harvest by private anglers has surpassed harvest by anglers fishing on charter or party boats (Figure 2). In 2016, an all-time high of 84% of harvest is attributed to the private mode, including shore-based and private/rental boat harvest.

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For much of the last decade, coastwide harvest has exceeded the RHL (Table 5). In 2016, an estimated 5.19 million pounds of black sea bass were harvested, exceeding the 2016 RHL by 2.37 million pounds. RHLs through 2016 approved by the Board and Council were largely based upon a conservative constant catch approach developed by the Council’s Scientific and Statistical Committee in the absence of an accepted peer-reviewed stock assessment. Constraining harvest in these years of increasing stock biomass through highly restrictive measures led to repeated exceedances of the RHL and increasingly restrictive measures in the northern region.

As of December 22, 2017, preliminary harvest data for 2017 are only available through October. These data estimate a recreational harvest of 3.7 million pounds for Maine through North Carolina during January–October 2017. This represents a 13% decrease from the same time period in 2016. The proportions of annual harvest per two-month wave in 2016 were used to project an annual harvest estimate for 2017 of 4.17 million pounds, 2.8% below the 2017 RHL of 4.29 million pounds, and 13.9% above the 2018 RHL of 3.66 million pounds. This harvest projection is highly uncertain given the interannual variability in harvest estimates.

Table 2. State-by-state recreational harvest of black sea bass (in numbers of fish), 2006–2016. Harvest data are restricted to the management unit. Source: MRIP, 2017.

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ME						0	0				
NH					0		3,195	12,283	0	0	0
MA	105,162	149,434	246,136	430,748	702,138	194,752	519,910	291,678	457,099	342,554	392,239
RI	41,021	44,024	52,303	35,972	160,427	50,203	102,548	74,727	214,463	233,631	254,704
CT	3,470	23,574	59,751	465	15,682	8,378	110,858	109,807	397,033	330,628	435,624
NY	268,526	409,697	259,511	566,483	543,243	274,473	321,516	353,036	469,150	876,630	1,032,604
NJ	530,727	724,591	579,617	583,373	687,451	148,487	734,928	345,337	468,402	310,298	294,312
DE	113,696	93,147	22,621	37,345	21,028	42,961	40,141	36,557	23,879	22,899	24,168
MD	120,803	38,669	26,429	33,082	36,018	47,445	33,080	29,677	68,469	57,631	79,951
VA	83,292	36,152	38,045	114,805	29,718	18,964	4,076	21,295	18,802	38,763	28,913
NC	18,829	8,517	9,353	3,307	10,850	30,975	3,664	8,002	696	1,920	864

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Table 3. State-by-state recreational harvest of black sea bass (in pounds), 2006–2016. Harvest data are restricted to the management unit. Source: MRIP, 2017.

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ME						0	0				
NH					0		4,587	19,228	0	0	0
MA	156,682	169,853	380,126	621,596	1,052,441	318,384	1,052,050	660,797	1,087,848	718,101	891,441
RI	57,913	65,091	84,536	50,657	246,229	85,903	226,131	144,723	370,530	444,337	564,370
CT	3,686	37,016	90,120	1,025	24,138	13,759	261,163	262,391	586,113	495,675	914,014
NY	476,391	558,204	521,073	878,045	975,622	399,030	545,222	734,729	847,181	1,531,492	2,211,292
NJ	685,525	1,076,468	830,821	768,731	780,116	181,699	993,614	515,176	631,457	428,318	398,482
DE	143,159	137,202	27,389	45,496	29,429	46,233	49,967	44,365	30,962	26,892	31,939
MD	135,906	49,046	33,550	40,553	41,506	51,730	42,175	39,170	87,086	78,052	103,995
VA	112,323	60,093	51,421	145,183	24,702	26,748	2,599	33,660	24,433	63,695	70,188
NC	28,352	21,863	11,489	7,043	16,265	47,310	7,153	9,992	1,180	3,878	1,249

Table 4. Percentage of recreational harvest (by weight) attributed to state waters, 2006–2016; the remaining harvest is attributed to federal waters. Note: North Carolina is omitted because location-specific harvest data for only north of Cape Hatteras are not readily available. Source: MRIP, 2017.

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2006-2016 average
ME	-	-	-	-	-	-	-	-	-	-	-	-
NH	-	-	-	-	-	-	100%	100%	-	-	-	100%
MA	96%	100%	98%	100%	100%	96%	100%	95%	88%	100%	94%	97%
RI	77%	97%	91%	99%	82%	95%	92%	69%	79%	75%	83%	82%
CT	100%	100%	100%	100%	100%	100%	100%	93%	93%	97%	95%	96%
NY	73%	48%	91%	86%	93%	94%	100%	63%	81%	73%	49%	72%
NJ	17%	14%	31%	54%	43%	33%	48%	57%	9%	19%	36%	33%
DE	18%	14%	10%	11%	47%	15%	8%	6%	3%	5%	8%	14%
MD	0%	0%	6%	0%	0%	3%	2%	0%	0%	21%	51%	11%
VA	6%	59%	61%	13%	54%	5%	19%	20%	83%	4%	9%	23%
Total	39%	35%	65%	73%	80%	75%	80%	71%	70%	72%	67%	68%

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Table 5. Black sea bass recreational harvest relative to the RHL, 2006–2016. Note: Harvest data are restricted to the management unit. Source: MRIP, 2017.

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Coastwide Harvest (mil. lb)	1.78	2.18	2.03	2.56	3.19	1.17	3.19	2.46	3.66	3.79	5.19
Coastwide RHL (mil. lb)	3.99	2.47	2.11	1.14	1.83	1.78	1.32	2.26	2.26	2.33	2.82
Percent of RHL harvested	45%	88%	96%	<b>225%</b>	<b>174%</b>	66%	<b>242%</b>	<b>109%</b>	<b>162%</b>	<b>163%</b>	<b>184%</b>

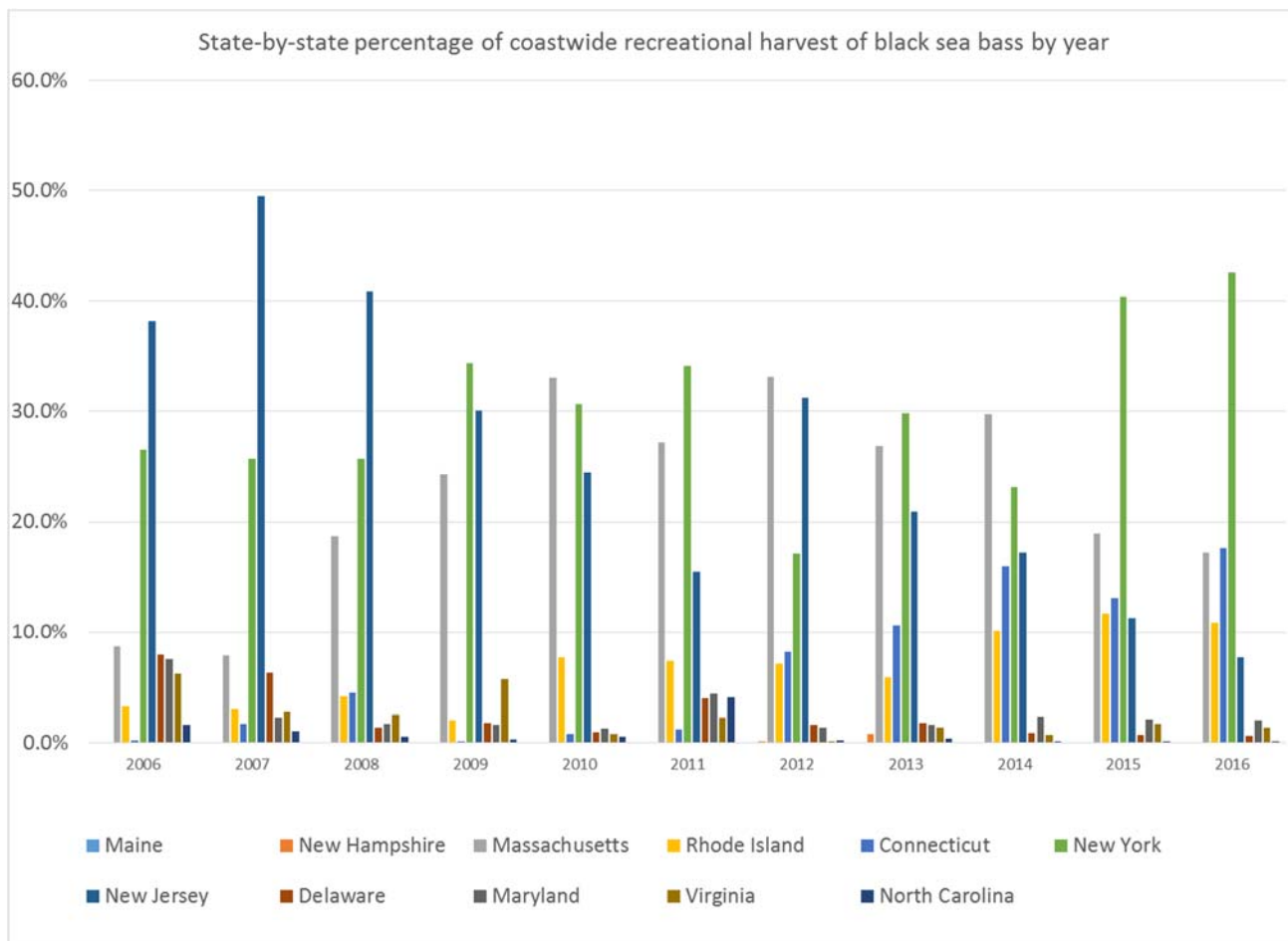


Figure 1. State-by-state contribution (as a percentage) to total recreational harvest of black sea bass (in weight) in the management unit, 2006–2016. Source: MRIP, 2017.

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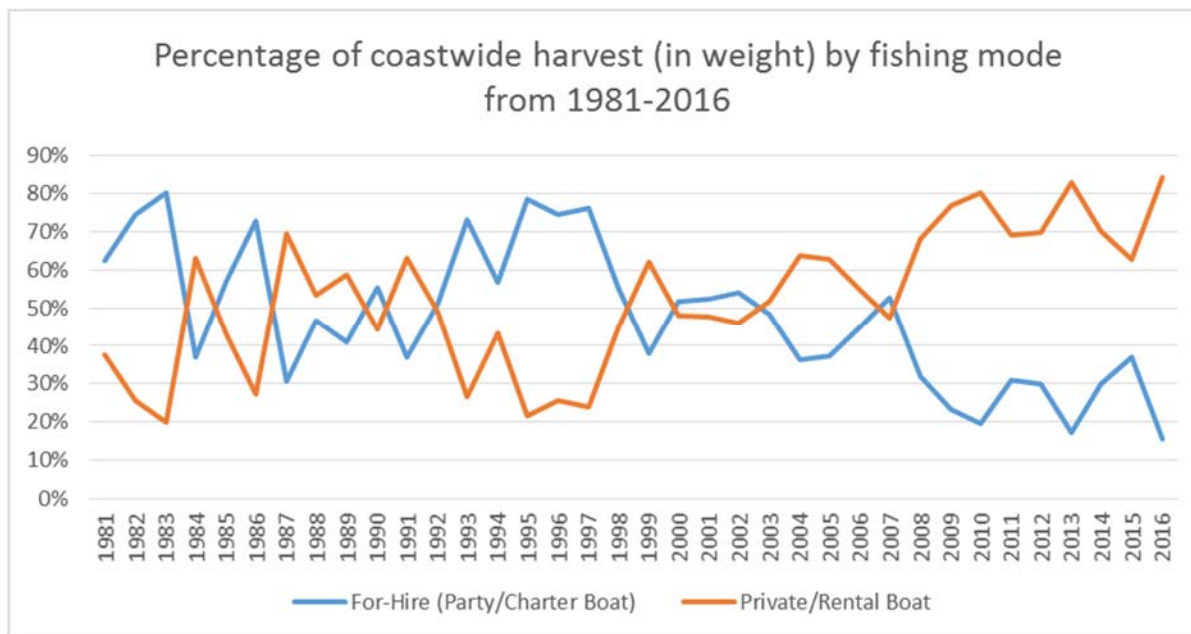


Figure 2. Percentage of coastwide harvest (in weight) by fishing mode from 1981-2016. Private/Rental Boat includes shore mode. Source: MRIP, 2017.

### 2.4 Status of the Stock

The most recent stock status information comes from the 2016 benchmark stock assessment, which was peer-reviewed and approved for management use in December 2016 (SARC 62). The assessment indicated that the black sea bass stock north of Cape Hatteras, North Carolina was not overfished and overfishing was not occurring in 2015, the terminal year of data used in the assessment.

For modeling purposes, the stock was partitioned into two sub-units approximately at Hudson Canyon to account for spatial differences in abundance and size at age. The sub-units are not considered to be separate stocks. Although the stock was assessed by sub-unit, the combined results were used to develop reference points, determine stock status, and recommend fishery specifications.

Spawning stock biomass (SSB), which includes both mature male and female biomass, averaged around 6 million pounds during the late 1980s and early 1990s and then steadily increased from 1997 to 2002 when it reached 18.7 million pounds. Since 2007, SSB has steadily and dramatically increased, reaching its highest level in 2015 (48.89 million pounds). SSB in the terminal year (2015) is considered underestimated, and was adjusted up for comparison to the reference points (Figure 3). The (similarly adjusted) fishing mortality rate (F) in 2015 was 0.27, below the fishing mortality threshold reference point ( $F_{MSY}$  PROXY= F40%) of 0.36. Fishing mortality has been below the  $F_{MSY}$  PROXY for the last five years. Model estimated recruitment has been relatively constant throughout the time series except for large peaks from the 1999 and 2011 year classes. Average recruitment of age 1 black sea bass from 1989–2015 was estimated at 24.3 million fish with the 1999 year class estimated at 37.3 million fish and the

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2011 year class estimated at 68.9 million fish. The 2011 year class is dominant in the northern area (north of Hudson Canyon) and less so in the southern area (south of Hudson Canyon).

Based on the stock assessment, the Board and Council set the 2017 RHL at 4.29 million pounds, an increase of over 52% from the 2016 RHL. Biomass is projected to decline in 2018 as the strong 2011 year class exits the fishery. Consequently, the Board and Council set the 2018 RHL at 3.66 million pounds, an approximate 15% reduction from the 2017 RHL.

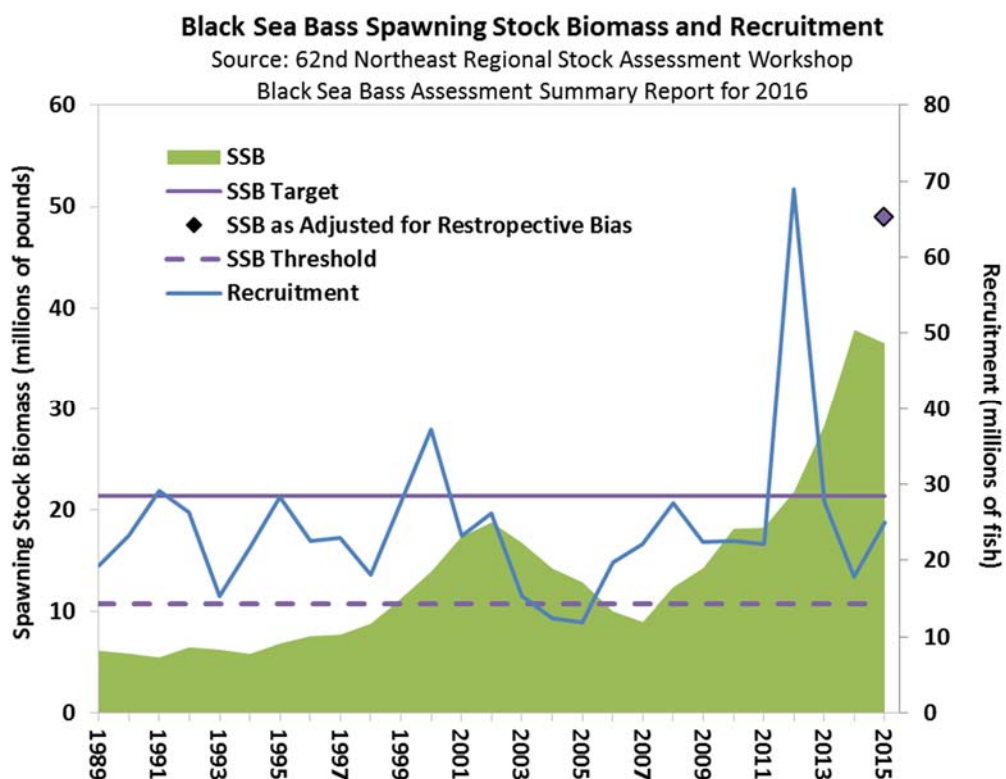


Figure 3. Black Sea Bass SSB and recruitment at age 1 by calendar year.

### 3.0 Proposed Management Program

The Board needs to consider management measures for the 2018 recreational black sea bass fishery that will constrain harvest to the 2018 RHL. In doing so, the Board is considering alternate approaches for managing the fishery.

The following options were developed from the May 2017 Board motion with guidance from the Black Sea Bass Recreational Working Group. While the motion referenced one-state regions as part of the suite of options to be considered, the Working Group advised against this approach. Thus, it is not included as an option. The following options are only specific to Massachusetts through North Carolina; none of the options specifies management for the states of Maine and New Hampshire. To date, no recreational black sea bass harvest has been attributed to Maine, and only two years of modest harvest (2012 and 2013) have been

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attributed to New Hampshire. Neither state is expected to harvest a significant proportion of the RHL in 2018. Both states will maintain their status quo measures in 2018, and monitor their harvests, if any. If either state harvests a significant amount in 2018 or thereafter, the Board will consider their inclusion in the management program.

The Board is seeking public comment on each of the options included in the Draft Addendum. Public comments should indicate preference for the proposed management options:

- 1) coastwide versus regional management
- 2) basis for regional allocation of the RHL
- 3) regional alignment
- 4) timeframe used for allocation
- 5) consistency of management measures within a region
- 6) process for specification and evaluation of management measures
- 7) timeframe for the addendum provisions

A flow chart of decision points for all of the management options is included in Appendix III, starting on page 23.

In October 2017, the Council and Board approved a motion to allow a February 2018 recreational black sea bass fishery for interested states in federal waters. Anglers would be limited to 15 fish per day at a minimum size of 12.5". States opting into this February 2018 fishery would be required to declare their participation by January 15, 2018 and specify how they will reduce harvest elsewhere in the year to account for their projected Wave 1 harvest. A preliminary estimate of the projected harvest, assuming all states participate, is 100,000 pounds. Appendix II outlines the allocation approach for the 2018 February fishery.

### 3.1 Management Options

#### **3.1.1 Default Management Program (Coastwide Measures)**

For 2018, coastwide measures (size limit, possession limit, and season length) would be specified to constrain recreational harvest to the RHL. These coastwide measures would be implemented in both state and federal waters.

NOAA Fisheries would also open federal waters during February 1–28, 2018 at a 12.5" size limit and 15 fish possession limit. States that participate in the February 2018 fishery by also adopting these rules would be required to adjust their regulations for the remainder of the fishing year to account for their projected harvest during February (see Appendix II, Table 1).

Note: If the default management program is selected by the Board and Council, Addendum XXX is no longer needed.

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### 3.1.2 Regional Allocation of Annual RHL

For 2018, exploitable biomass and historical harvest, or historical harvest alone (Section 3.1.2.1) within a specified timeframe (Section 3.1.2.3) would determine allocation of the RHL to specified regions (Section 3.1.2.2). The states in each region would be collectively responsible for developing measures that constrain harvest to their allocation, and account for any state participation in the February 2018 fishery. Consistency in management measures for states within a region would need to be specified (Section 3.1.2.4). Regional proposals would be submitted for the Board's consideration and approval following the 2018 ASMFC Winter Meeting. For 2018, measures would be specified through the status quo process of adjusting to the coastwide RHL based on MRIP harvest estimates; for 2019, an option is set forth that would allow for evaluation and specification based on achieving the coastwide recreational annual catch limit (ACL) (Section 3.1.3).

#### **3.1.2.1 Options for Allocation of the RHL**

##### **A) Regional allocation based on historical harvest**

Under this option, recreational harvest estimates from MRIP in numbers of fish would be used to determine each regional allocation of the annual RHL. Allocation of the RHL would be proportional to the average estimated harvest of the specified region (Section 3.1.2.2) across a specified timeframe (Section 3.1.2.3). See tables A1-A6 in Appendix I for the resulting regional allocations and example management measures.

##### **B) Regional allocation based on exploitable biomass and historical harvest**

Under this option, the recreational management of black sea bass in the management unit will be split into three regions. The northern region would include the states of Massachusetts through New York; New Jersey would constitute a stand-alone region; and the southern region would include the states of Delaware through North Carolina north of Cape Hatteras. **NOTE: If this option is selected, only option B under Section 3.1.2.2, Regional Alignment, would apply.**

The annual RHL would be allocated initially between the northern and southern regions, with the southern region including New Jersey, based on a time-series average of *exploitable biomass* produced from the 2016 benchmark stock assessment. The estimates of exploitable biomass are derived from the assessment's recreational catch per angler (CPA) effort data, divided by the catchability coefficient ( $q$ ), for each region. Then, New Jersey's portion of the southern region's *historical harvest* would be applied to the southern region allocation to establish New Jersey's allocation of the coastwide RHL, with the balance constituting the southern region's (DE-NC) allocation of the coastwide RHL. See Tables B1 and B2 in Appendix I for the resulting regional allocations and example management measures.

This option provides an alternative to sole reliance on recreational harvest estimates to determine allocations. In recent years, there have been changes to how harvest



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estimates have been calculated. Additionally, harvest is in part a product of the regulations that have been in place. This approach seeks to address changes in both the resource's distribution and abundance, and the avidity of the recreational angling community targeting black sea bass. A strictly biomass-based allocation approach for New Jersey is not currently possible with the available scientific information. This hybrid approach (using exploitable biomass and also historical harvest for the states of NJ-NC) recognizes that New Jersey waters essentially straddle the biomass partition at Hudson Canyon, and assumes that New Jersey's harvest levels over time bear some relation to the exploitable biomass available to New Jersey anglers.

### **3.1.2.2 Regional Alignment**

The following options would specify the alignment for regional allocation in 2018. (Regional allocation scenarios under the regional alignment and timeframe combinations are included in Appendix I.)

**NOTE:** Because individual states may opt into the February 2018 recreational fishery, some states within affected regions may have two sets of measures: those specific to the February fishery and those for the remainder of the year. States declaring participation in the February 2018 fishery would need to make such a declaration by January 15, 2018, and factor their participation (i.e. projected harvest) into the development of proposals for Board consideration and approval following the 2018 ASMFC Winter Meeting.

- A) 2 Regions:** Massachusetts through New Jersey (northern region); and Delaware through North Carolina north of Cape Hatteras (southern region). This regional alignment was in place during ad-hoc regional management (2012-2017), and thus constitutes the status quo regional alignment. Regions were based on both amount of harvest and area of harvest (state vs federal waters).
- B) 3 Regions:** Massachusetts through New York (northern region); New Jersey as a state-specific region (New Jersey Region); and Delaware through North Carolina north of Cape Hatteras (southern region). This regional alignment is based in part on the results of the 2016 benchmark stock assessment, which indicated different levels of abundance for black sea bass north of Hudson Canyon. As the demarcation line of abundance is not fixed, this regional alignment seeks to allow New Jersey to set state level measures to address spatial variation in size and abundance of black sea bass along the New Jersey coast.
- C) 4 Regions:** Massachusetts through Rhode Island (northern region); Connecticut through New York (Long Island Region); New Jersey as a state-specific region (New Jersey Region); and Delaware through North Carolina north of Cape Hatteras (southern region). This regional alignment is aimed at achieving generally consistent measures between neighboring states and within shared water bodies.

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### **3.1.2.3 Timeframe for specifying regional allocation**

Data from one of the following timeframe options would be used to set the allocations relative to the 2018 RHL, for either the exploitable biomass-based or harvest-based allocation approaches. The option would specify the timeframe for calculating regional average CPA (for the exploitable-biomass-based approach), or regional average harvest (for the harvest-based approach). The following timeframes were determined by the Recreational Working Group to encompass harvest information from two recent time periods to reflect current harvest trends. 2016 was excluded from the timeframe options due to uncertainty in 2016 MRIP harvest estimates, and 2015 being the terminal year of the stock assessment.

**A) 2006-2015 (10 years)**

**B) 2011-2015 (5 years)**

### **3.1.2.4 Management measures within a region\***

**A) Uniform regulations within a region:** The states within a region must implement a set of uniform management measures (size limit, possession limit, and season length). (**NOTE:** This option is only viable if no states participate in the February 2018 recreational fishery or all states within a region participate and evenly share accountability for the projected harvest.)

**B) Regulatory standard with conservation equivalency allowed:** A uniform set of regulations would be developed for a region (a regulatory standard). States within the region could then submit proposals to implement alternative measures deemed conservationally equivalent to the regulatory standard, although management measures may not exceed a difference of more than 1" in size limit, 3 fish in possession limit, and 30 days in season length (refers to total number of days) from the regulatory standard.

\*As noted above, some states may have two sets of measures depending on their participation in the February 2018 recreational black sea bass fishery.

### **3.1.3 Specification and evaluation of measures**

**A) Status Quo**

Recreational measures would be set annually based on the most current year's projected harvest and fishery performance to manage harvest in the subsequent year to the regional allocation of the RHL (i.e., projected 2017 harvest used to achieve 2018 RHL; and 2018 projected harvest used to achieve 2019 RHL).

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### For 2018

December 2017- January 2018: Public comment period

February 2018: The Board considers approval of Addendum XXX at the 2018 ASMFC Winter Meeting. If Section 3.1.2, Regional Allocation of the RHL, is selected with specified regional alignment, timeframe, and management measures consistency, the states would collectively develop regional proposals for their 2018 management measures, and submit them for Technical Committee review following the Winter Meeting. The Board would then consider and approve the regional proposals. If states within a region are unable to reach consensus on regional proposals, the measures for the region will be specified by the Board, based on guidance from the Technical Committee.

States would go through the implementation process to set 2018 regional management measures prior to the start of the Wave 3 (May 1, 2018) recreational fishing season.

### For 2019 and thereafter

The states within a region would collectively develop management measures to achieve their regional allocation of the RHL prior to the beginning of the recreational fishing season. The Board may specify provisions of the regional management measures, such as how much they may change (i.e., size limit, possession limit, season length) from year to year in order to achieve the regional harvest allocation.

## **B) Adjusting management measures to the ACL**

Given uncertainty in MRIP harvest estimates, this option proposes a change from the status quo method of annually evaluating recreational fishery performance based only on harvest against the RHL. It proposes a performance evaluation process that better incorporates biological information and efforts to reduce discard mortality into the metrics used for evaluation and management response by evaluating fishery performance against the ACL. This option seeks to integrate information from the 2016 assessment into the management process, enhance the angling experience of the recreational community, improve the reporting of recreational information, and achieve meaningful reductions in discard mortality to better inform management responses to changes in the condition of the resource.

Initially, recreational measures would be specified based on the most current year's projected *harvest* and fishery performance to manage *harvest* in the subsequent year to the regional allocation of the *RHL* (i.e., projected 2017 harvest used to achieve 2018 RHL). Starting in 2019, measures would be specified based on the most current year's projected *catch* (including harvest and discards) and fishery performance to manage

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*catch* in the subsequent year to the regional allocation of the ACL (i.e., 2018 projected catch used to achieve 2019 ACL).

### For 2018

December 2017- January 2018: Public comment period

February 2018: The Board considers approval of Addendum XXX at the 2018 ASMFC Winter Meeting. If Section 3.1.2, Regional Allocation of the RHL, is selected with specified regional alignment, timeframe, and management measures consistency, the states would collectively develop regional proposals for their 2018 management measures, and submit them for Technical Committee review following the Winter Meeting. The Board would then consider and approve the regional proposals. If states within a region are unable to reach consensus on regional proposals, the measures for the region will be specified by the Board, based on guidance from the Technical Committee.

States would go through the implementation process to set 2018 regional management measures prior to the start of the Wave 3 (May 1, 2018) recreational fishing season.

In addition, states would develop proposals to implement improved data collection and compliance, and reduced discard mortality, for both private anglers and state-permitted for-hire vessels<sup>1</sup> recreationally targeting black sea bass. State proposals would need to demonstrate that by the 2020 fishing season, significant improvements would be achieved in the following five parameters:

- 1) Biological sampling (length and weight)
- 2) Reduction in refusal rates of dockside MRIP intercepts/interviews
- 3) Discard composition information (i.e., reason discarded, length)
- 4) Reduction in discarding relative to 2010-2015
- 5) Improved compliance with management measures

### For 2019 and thereafter

The states within a region would collectively develop management measures to achieve their regional allocation of the RHL prior to the beginning of the recreational fishing season. The Board may specify provisions of the regional management measures, such as how much they may change (i.e., size limit, possession limit, season length) from year to year in order to achieve the regional harvest allocation.

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<sup>1</sup> Effective March 12, 2018 as federally permitted for-hire vessels are required to submit electronic Vessel Trip Reports (VTRs) electronically and within 48 hours of ending a fishing trip (reporting all trips and all fish). VTRs from federally permitted vessels are required to report all fish kept or discarded (not just fish the vessel is permitted for) and for all fishing-related trips the vessel conducts. <http://www.mafmc.org/newsfeed/2017/mid-atlantic-for-hire-vessel-permitting-and-reporting-electronic-only-submission-requirement-starts-march-12-2018>

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Fishery performance would be evaluated relative to the ACL. If the coastwide ACL is not exceeded in the previous year, states may demonstrate that maintaining current or similar management measures will constrain total catch to the ACL for the following year. This analysis must be prepared before the Joint ASMFC/MAFMC meeting annually scheduled in December to set recreational specifications for the upcoming year.

If the coastwide ACL has been exceeded in the previous year, it will then be evaluated against a 3-year moving average of the ACL. If the ACL overage exceeds the 3-year moving average of the ACL, the states within a region will develop proposals to reduce their recreational management measures (bag, size, and seasonal limits) for the following year, based on available catch data. These adjustments would take into account the performance of the measure and conditions that precipitated the overage.

The Board will also annually review progress made by the states regarding achievement of the five parameters addressed by the state proposals to improve data and reduce discards.

### 3.2 Timeframe for Addendum provisions

**A) 2 years (2018-2019)**

All of the options selected in Section 3.1 would constitute the management program for 2018. The Board could take action, through a Board vote, to extend the management program as specified in the addendum for one year, expiring at the end of 2019. After 2019, measures would revert back to the FMP status quo of coastwide measures.

**B) 3 years (2018-2020)**

All of the options selected in Section 3.1 would constitute the management program for 2018. The Board could take action, through a Board vote, to extend the management program as specified in the addendum for up to two years, expiring at the end of 2020. After 2020, measures would revert back to the FMP status quo of coastwide measures.

### 4.0 Compliance

TBD

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### Appendix I. Regional Allocation Scenarios

**PLEASE NOTE:** Each option in the addendum includes an example of state regulations that could be implemented to achieve the regional allocation of the RHL. These are just examples, and are based on preliminary 2017 data. The states and/or Technical Committee would develop the actual regulations using updated harvest estimates for state adoption following the finalization of the Addendum, subject to Board approval.

#### Section 3.1.2.1, Option A: Regional allocation based on historical harvest<sup>2</sup>

##### 1) 2 Regions: Massachusetts through New Jersey (northern region); Delaware through North Carolina north of Cape Hatteras (southern region).

Table A1. Time Series Option “A” 2006-2015 harvest in numbers of fish

State	Harvest	Regional Harvest	% Allocation	2018 RHL	2018 Regional Allocation in lbs (2006-2015 timeframe)	Projected 2017 Harvest (lbs)	% Change from 2017 Harvest to 2018 Allocation	Minimum Size Limit	Possession Limit (# fish)	Season (# of days)
MA	3,439,611	14,964,052	91.19% (90.01%)*	3.66 million lbs	3,339,267 (3,332,685)*	3,910,840	-14.62%	15"	5	219
RI	1,009,319									
CT	1,059,646									
NY	4,342,265									
NJ	5,113,211									
DE	454,274	1,445,602	8.81% (8.99%)*	3.66 million lbs	322,611 (329,193)*	257,943	25.07%	12.5"	15	225
MD	491,303									
VA	403,912									
NC	96,113									
<b>Grand Total</b>	16,409,654		100.00%							

\* Value that went out for public comment (in parentheses) differs from updated value based on most current data

Table A2. Time Series Option “B” 2011-2015 harvest in numbers of fish

State	Harvest	Regional Harvest	% Allocation	2018 RHL	2018 Regional Allocation in lbs (2006-2015 timeframe)	Projected 2017 Harvest (lbs)	% Change from 2017 Harvest to 2018 Allocation	Minimum Size Limit	Possession Limit (# fish)	Season (# of days)
MA	1,805,993	7,740,526	93.37%	3.66 million lbs	3,418,989	3,910,840	-12.577%	15"	5	227
RI	675,572									
CT	956,704									
NY	229,480									
NJ	200,745									
DE	166,437	549,896	6.63%	3.66 million lbs	242,889	257,943	-5.84%	12.5"	15	195
MD	236,302									
VA	101,900									
NC	45,257									
<b>Grand Total</b>	8,290,422		100.00%							

<sup>2</sup> Please Note: Harvest from New Hampshire is <1% of the coastwide total harvest in these time series, and is not considered in the coastwide harvest used for regional allocation. Projected harvest for 2017 was based on preliminary 2017 data through wave 5 by assuming the same proportion of catch and landings in 2016.

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- 2) 3 Regions: Massachusetts through New York (northern region); New Jersey as a state-specific region (New Jersey Region); Delaware through North Carolina north of Cape Hatteras (southern region).

Table A3. Time Series Option "A" 2006-2015 harvest in numbers of fish

State	Harvest	Regional Harvest	% Allocation	2018 RHL	2018 Regional Allocation in lbs (2006-2015 timeframe)	Projected 2017 Harvest (lbs)	% Change from 2017 Harvest to 2018 Allocation	Minimum Size Limit	Possession Limit (# fish)	Season (# of days)
MA	3,439,611	9,850,841	60.03% (59.81%)*	3.66 million lbs	2,198,225 (2,190,257)*	2,496,841	-11.96%	15"	5	107
RI	1,009,319									
CT	1,059,646									
NY	4,342,265									
NJ	5,113,211	5,113,211	31.16% (31.20%)*		1,141,041 (1,142,428)*	1,413,999	-19.30%	12.5"	w1: 10 w2: 2 w3-4: 15	137
DE	454,274	1,445,602	8.81% (8.99%)*		322,611 (329,193)*	257,943	25.07%	12.5"	15	225
MD	491,303									
VA	403,912									
NC	96,113									
<b>Grand Total</b>	16,409,654		100.00%							

\* Value that went out for public comment (in parentheses) differs from updated value based on most current data

Table A4. Time Series Option "B" 2011-2015 Harvest in numbers of fish

State	Harvest	Regional Harvest	% Allocation	2018 RHL	2018 Regional Allocation in lbs (2006-2015 timeframe)	Projected 2017 Harvest (lbs)	% Change from 2017 Harvest to 2018 Allocation	Minimum Size Limit	Possession Limit (# fish)	Season (# of days)
MA	1,805,993	5,733,074	69.15%	3.66 million lbs	2,532,298	2,496,841	1.42%	15"	5	126
RI	675,572									
CT	956,704									
NY	2,294,805									
NJ	2,007,452	2,007,452	24.21%		886,691	1,413,999	-37.29%	13"	w1: 10 w2: 2 w3-4: 10	131
DE	166,437	549,896	6.63%		242,889	257,943	-5.84%	12.5"	15	195
MD	236,302									
VA	101,900									
NC	45,257									
<b>Grand Total</b>	8,305,900		100.00%							

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**3) 4 Regions: Massachusetts through Rhode Island (northern region); Connecticut through New York (Long Island Region); New Jersey as a state specific region (New Jersey Region); Delaware through North Carolina north of Cape Hatteras (southern region).**

Table A5. Time Series Option "A" 2006-2015 Harvest in numbers of fish

State	Harvest	Regional Harvest	% Allocation	2018 RHL	2018 Regional Allocation in lbs (2006-2015 timeframe)	Projected 2017 Harvest (lbs)	% Change from 2017 Harvest to 2018 Allocation	Minimum Size Limit	Possession Limit (# fish)	Season (# of days)
MA	3,439,611	4,448,930	27.11%	3.66 million lbs	992,735	1,008,198	-1.53%	15"	5	114
RI	1,009,319		(26.74%)*		(979,221)*					
CT	1,059,646	5,401,911	32.92%		1,205,490	1,488,642	-19.02%	15"	5	99
NY	4,342,265		(33.07%)*		(1,211,036)*					
NJ	5,113,211	5,113,211	31.16% (31.20%)*		1,141,041 (1,142,428)*	1,413,999	-19.30%	13 inches	w1: 10 w2: 2 w3-4: 10	155
DE	454,274	1,445,602	8.81% (8.99%)*		322,611 (329,193)*	257,943	25.07%	12.5"	15	225
MD	491,303									
VA	403,912									
NC	96,113									
<b>Grand Total</b>	16,409,654		100.00%							

\* Value that went out for public comment (in parentheses) differs from updated value based on most current data

Table A6. Time Series Option "B" 2011-2015 Harvest in numbers of fish

State	Harvest	Regional Harvest	% Allocation	2018 RHL	2018 Regional Allocation in lbs (2006-2015 timeframe)	Projected 2017 Harvest (lbs)	% Change from 2017 Harvest to 2018 Allocation	Minimum Size Limit	Possession Limit (# fish)	Season (# of days)
MA	1,805,993	2,481,565	29.93%	3.66 million lbs	1,096,107	1,008,198	8.72%	15"	5	126
RI	675,572									
CT	956,704	3,251,509	39.22%		1,436,191	1,488,642	-3.52%	15"	5	125
NY	2,294,805									
NJ	2,007,452	2,007,452	24.21%		886,691	1,413,999	-37.29%	12.5 inches	w1: 10 w2: 2 w3-4: 10	122
DE	166,437	549,896	6.63%		242,889	257,943	-5.84%	12.5"	15	195
MD	236,302									
VA	101,900									
NC	45,257									
<b>Grand Total</b>	8,305,900		100.00%							



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### Section 3.1.2.1, Option B: Regional allocation based on exploitable biomass and historical harvest

Table B1: Regional Allocation based on Exploitable Biomass and Historical Harvest for 2006-2015

Region	Time series average (2006-2015) CPA by Region	Catchability coefficient (q) scaler (For entire time series)	Regional Allocation % under time series 2006-2015		2018 RHL	Regional Allocation under time series 2006-2015 (lbs)		Projected 2017 Harvest (lbs)	% Change from 2017 harvest to 2018 Allocation	Potential Management		
										Min. Size Limit	Bag Limit (# fish)	Season (# of days)
North: MA-NY	1.09 fish per trip	0.0000528	57%		3.66 million pounds	2,087,270		2,496,841	-16.40%	15"	5	102 (144)**
South: NJ	1.87 fish per trip	0.0001197	43%	77.6%*		1,574,608	1,221,895	1,413,999	-13.59%	12.5"	w3: 10 w4: 2 w5-6: 15	140
South: DE-NC				22.4%*			352,712	257,943	36.74%		12.5"	15

Table B2: Regional Allocation based on Exploitable Biomass and Historical Harvest for 2011-2015

Region	Time series average (2011-2015) CPA by Region	Catchability coefficient (q) scaler (For entire time series)	Regional Allocation % under time series 2011-2015		2018 RHL	Regional Allocation under time series 2011-2015 (lbs)		Projected 2017 Harvest (lbs)	% Change from 2017 harvest to 2018 Allocation	Potential Management		
										Min. Size Limit	Bag Limit	Season (# of days)
North: MA-NY	1.51 fish per trip	0.0000528	65.7%		3.66 million pounds	2,405,854		2,496,841	-3.64%	15"	5	119 (185)**
South: NJ	1.78 fish per trip	0.0001197	34.3%	78.5%*		1,256,024	985,979	1,413,999	-30.27%	12.5"	w3-5: w3: 10 w4: 2 w6: 13"	127
South: DE-NC				21.5%*			270,045	257,943	4.69%		12.5"	15

\* Proportion of southern region allocation based on historical harvest

\*\* Value that went out for public comment (in parentheses) differs from updated value based on most current data

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### Appendix II. Management of February 2018 fishery

Table 1. Allocation of February 2018 Fishery 100,000 pounds

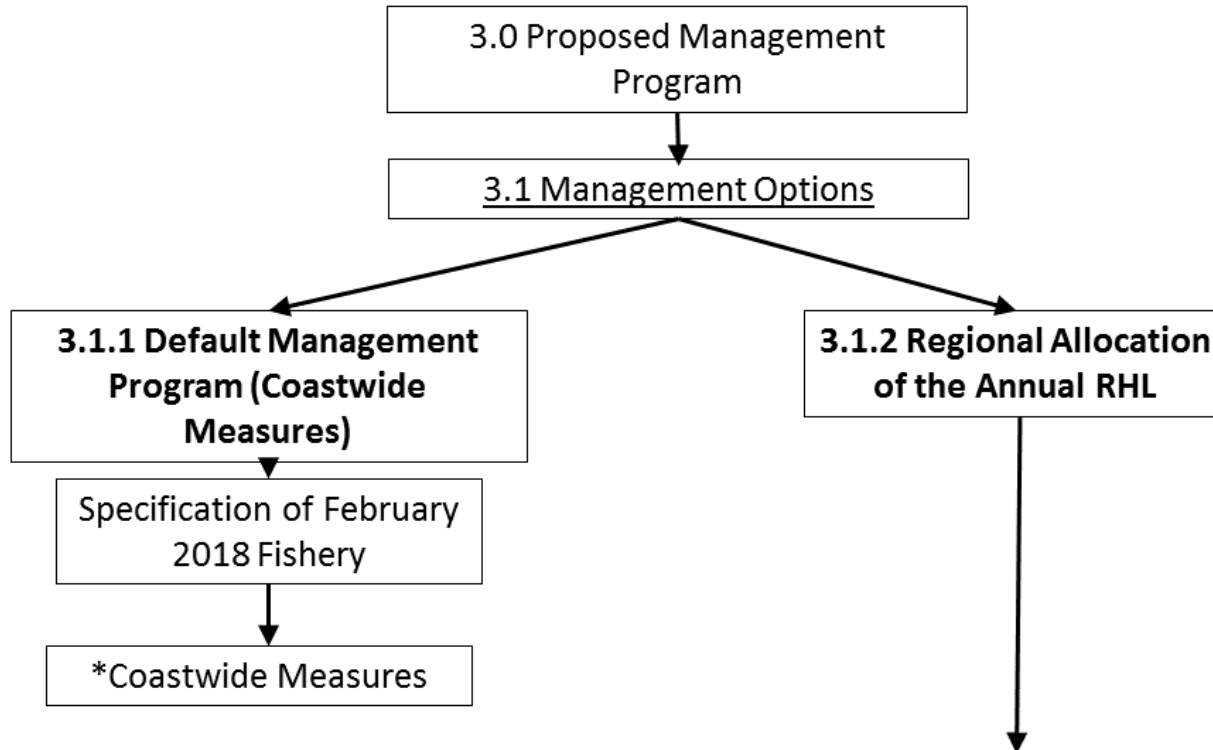
State	Proportion of Wave 1 Harvest	Allocation of Wave 1 100,000 pounds in weight
RI	0.29%	288
CT	0.06%	57
NY	9.41%	9,410
NJ	82.85%	82,850
DE	1.30%	1,297
MD	0.54%	541
VA	5.50%	5,496
NC	0.06%	62
Total	100.00%	100,000

The above table gives each state's proportion of total harvest during wave 1, based on wave 1 landings data from 1996-2009 and 2013. Per the Board and Council decision, the 100,000 pounds allowed for the February 2018 fishery will be allocated to the participating states based on these average proportions.

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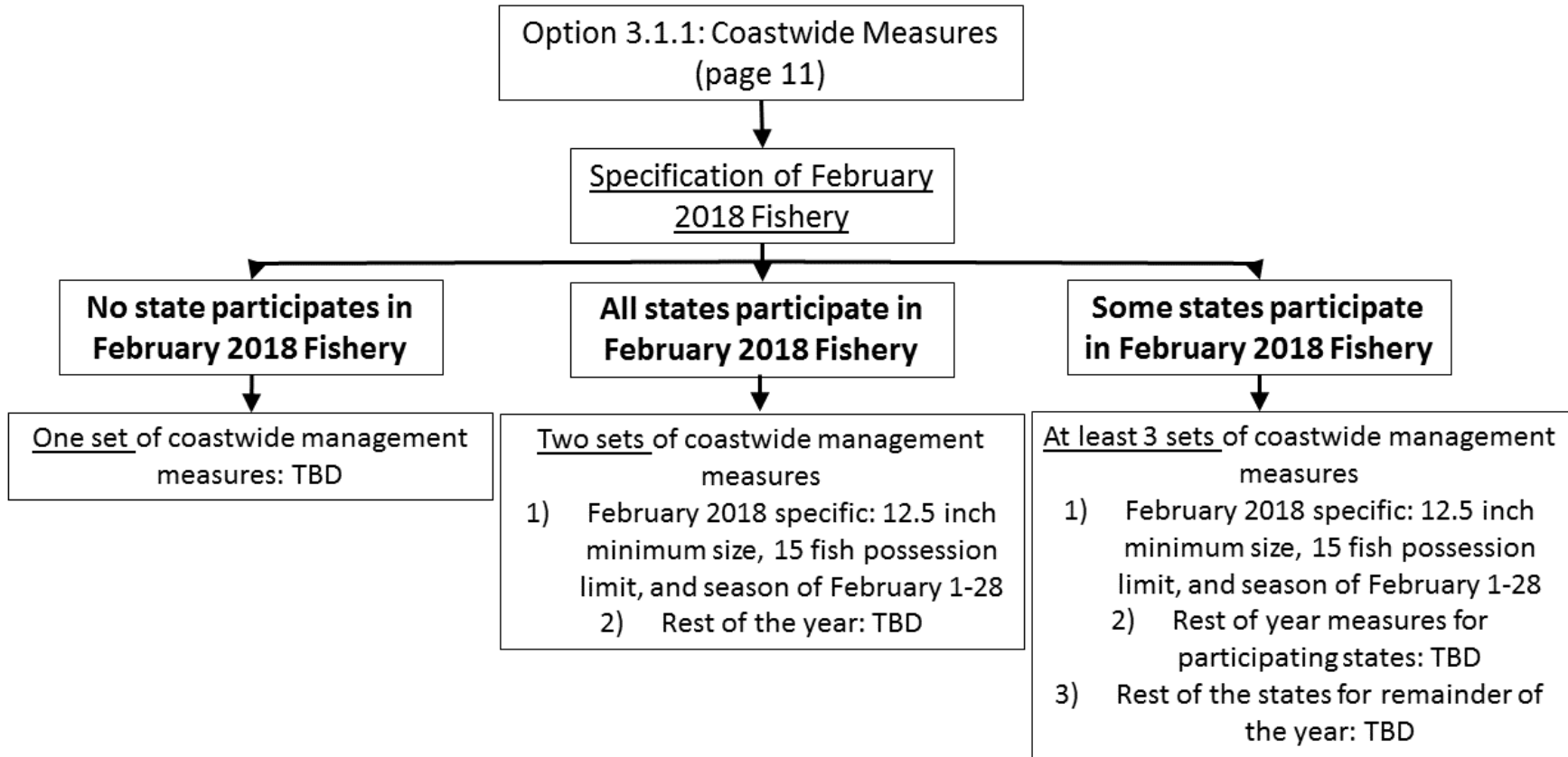
Appendix III. Decision Tree for Draft Addendum XXX Options

ASMFC Decision Tree for Draft Addendum XXX for Black Sea Bass Recreational Management (1/6)



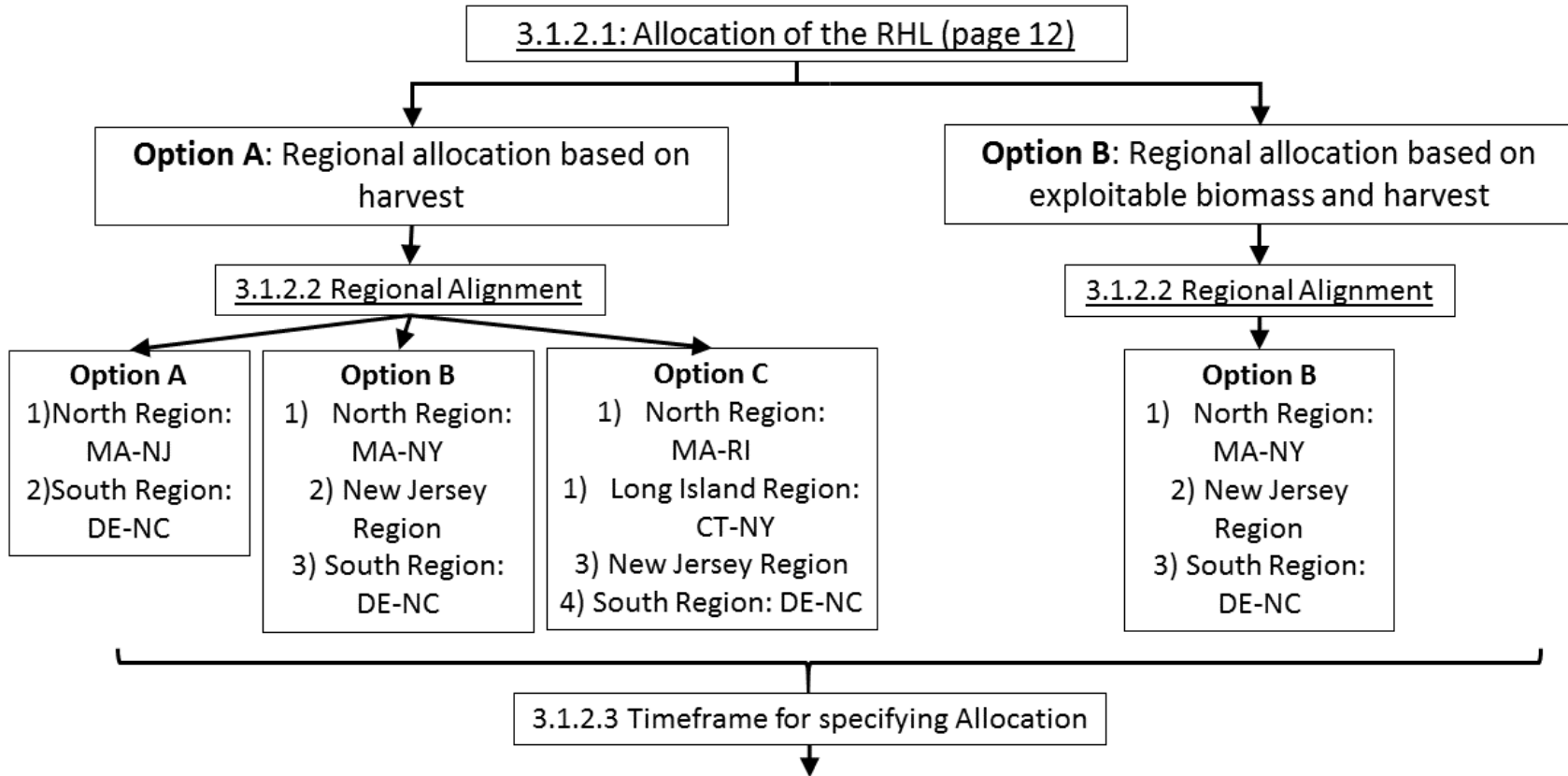
Draft Addendum for Board Review

ASMFC Decision Tree for Draft Addendum XXX for Black Sea Bass Recreational Management (2/6)



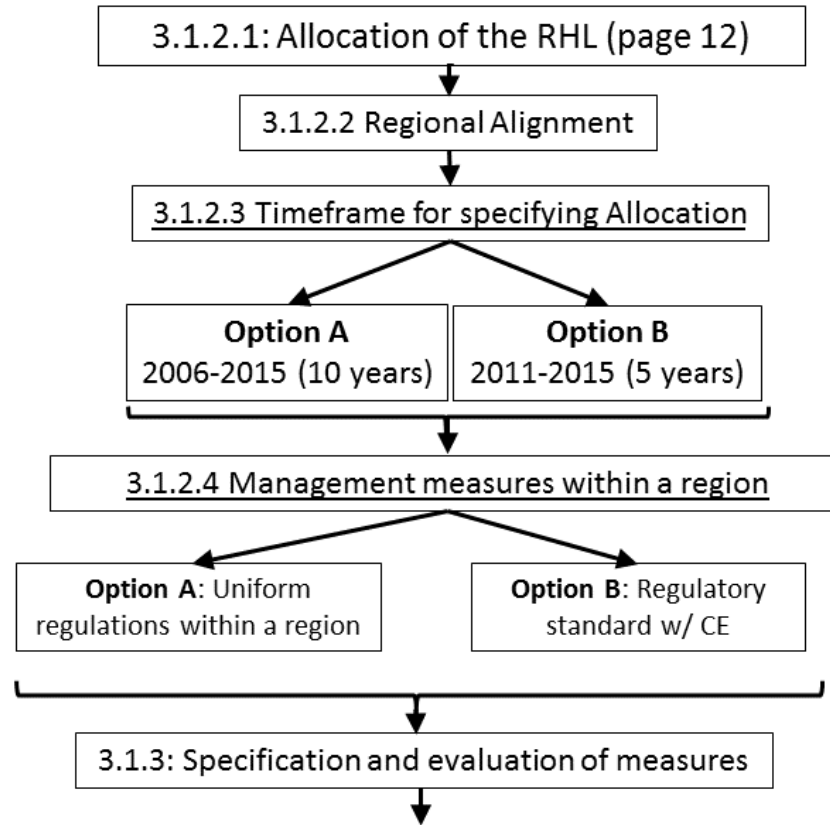
Draft Addendum for Board Review

ASMFC Decision Tree for Draft Addendum XXX for Black Sea Bass Recreational Management (3/6)



## Draft Addendum for Board Review

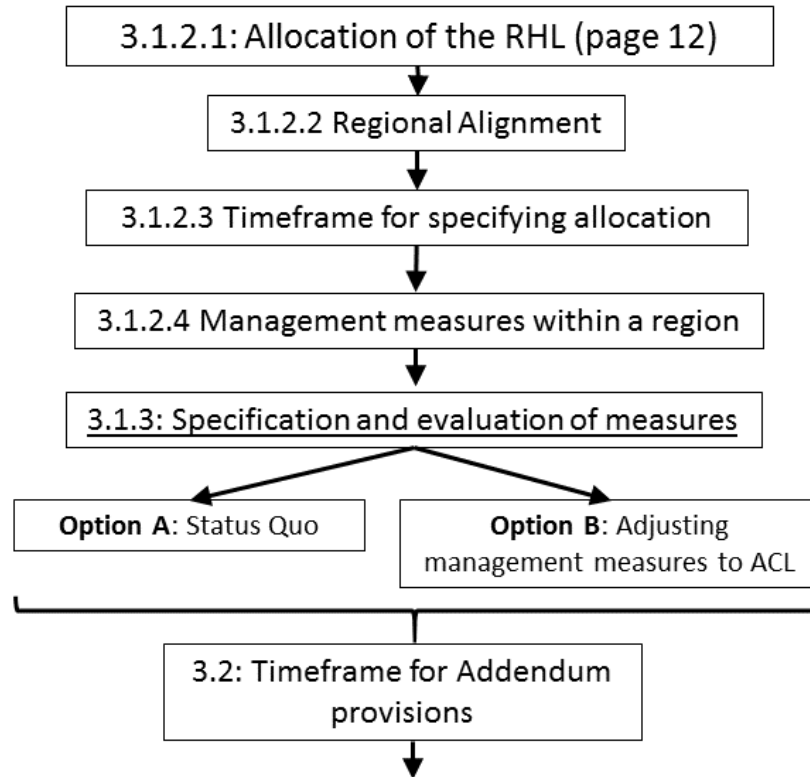
### ASMFC Decision Tree for Draft Addendum XXX for Black Sea Bass Recreational Management (4/6)



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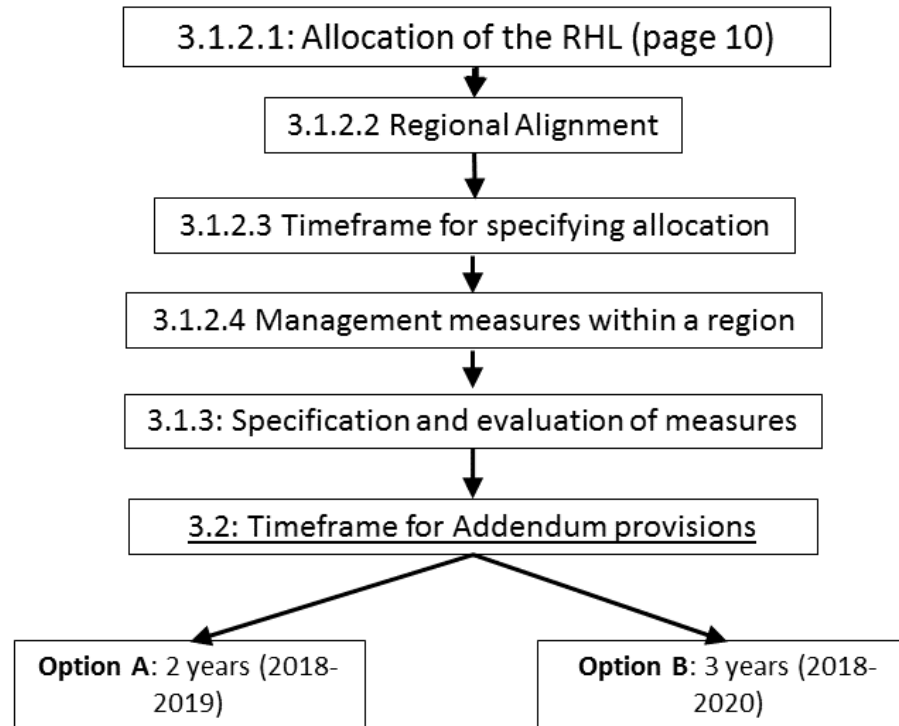
## Draft Addendum for Board Review

### ASMFC Decision Tree for Draft Addendum XXX for Black Sea Bass Recreational Management (5/6)



## Draft Addendum for Board Review

### ASMFC Decision Tree for Draft Addendum XXX for Black Sea Bass Recreational Management (6/6)







# Atlantic States Marine Fisheries Commission

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## MEMORANDUM

January 19, 2018

**To: Summer Flounder, Scup, and Black Sea Bass Management Board**  
**From: Summer Flounder, Scup, and Black Sea Bass Technical Committee**  
**RE: 2018 Summer Flounder Recreational Fishery Proposals**

### List of Participants

John Maniscalco (NY)	Mark Terceiro (NMFS)	Julia Beaty (MAFMC)
Peter Clarke (NJ)	Kiley Dancy (MAFMC)	Caitlin Starks (ASMFC)
Steve Doctor (MD)	Emily Gilbert (NOAA)	Rich Wong (DE)
Joe Cimino (VA)	Kirby Rootes-Murdy	Tiffany Cunningham (MA)
TD VanMiddlesworth (NC)	(ASMFC)	

**The following memo contains the Summer Flounder, Scup, and Black Sea Bass Technical Committee Review of the Summer Flounder Regional Proposals for the 2018 recreational fishery.**

The Board and Council met in December of 2017 to establish the 2018 recreational management program for Summer Flounder. At this meeting, the Board moved to extend Addendum XXVIII through 2018, re-established regional conservation equivalency for the recreational summer flounder fishery, and set a de-facto 2018 coastwide recreational harvest target of 3.78 million pounds. This target is based upon the 17% liberalization of the projected 2017 coastwide recreational harvest at the time (data through Wave 4, 3.23 million pounds) and differs from the 2018 RHL of 4.42 million pounds. The Board and Council approved the 3.78 million pound target for development of recreational measures due to concerns about stock status, concerns that recent projected increases in biomass have not been realized, and concerns that effort and success rates have been highly variable over the past few years, making it difficult to predict the effects of modifications to management measures. The current projected 2017 coastwide recreational harvest (using data through Wave 5) is 3.10 million pounds, differing from the 2018 target by 21.9% and the 2018 RHL by 42.6%. Recreational summer flounder harvest by the coast in 2017 is expected to be well under the 2017 RHL of 3.77 million pounds.

Based on the Board's action, the regional configuration of 2016-2017 is extended into 2018. This includes the following 6 regions: 1) Massachusetts 2) Rhode Island 3) Connecticut-New York 4) New Jersey 5) Delaware-Virginia and 6) North Carolina. The combined management program of all 6 regions is designed to not exceed the 2018 recreational harvest limit. With the exception of North Carolina, all other regions developed proposals for different 2018 recreational

management that would achieve but not exceed a 17% liberalization of their 2017 harvest. All of the submitted proposals are included in the appendix at the end of this memo.

The Technical Committee (TC) met via conference call on January 16<sup>th</sup> and reviewed the following summer flounder recreational proposals for 2018. In reviewing the proposals, the following considerations should be noted:

- 1.) A continual issue for this TC is the lack of uniformity in analysis to show how adjustment to management measures year to year based on the MRIP data will achieve desired reductions or liberalizations. If the intent of the Board is to continue annual adjustment to management measures for the foreseeable future, prioritizing the development of a new set of standard operating procedures (SOPs) for this annual task is needed, as well a reconsideration of the annual timeline to complete this task.
- 2.) As previously noted in the Monitoring Committee report presented to the Board and Council at the Joint Meeting in December 2017, the TC remains concerned about the status of the resource and notes that while liberalizations in harvest in 2017 are available due to underage's in the coastwide harvest, reductions in harvest in 2019 and beyond may be needed depending on the outcome of the 2018 benchmark stock assessment. As a reminder, management measures between 2014-2016 remained constant while harvest varied significantly year to year.

### **Proposed Management Strategies for 2018 by region**

#### **Massachusetts**

The 2017 Massachusetts' summer flounder regulations were: 17" min size, 4 fish bag limit, and season of May 22-September 23. These regulations resulted in the estimated recreational harvest of 26,669 fish. 2017 harvest was a 54% decrease from 2016 harvest levels. A 17% liberalization in harvest from 2017 levels will result in a 2018 harvest target for Massachusetts of approximately 30,033 fish.

The commonwealth of Massachusetts put forward one proposed option for 2018: maintaining the 17" minimum size and the **increasing the possession limit to 5 fish and increasing the season length by 15 days at the end of the season**. These proposed changes result in projected 17% increase in harvest in 2018.

#### **Analysis:**

Bag analysis used preliminary 2017 MRIP data through wave 5. Intercept data representing compliant harvest were used; however the percentage of non-compliant harvest was calculated, and added back in to estimate the harvest increase associated with bag limit changes. Two approaches were used to calculate the change in harvest based on the proposed possession limit increase: 1) an additive approach and 2) a Poisson approach. The additive approach assumes that every intercept at the current bag limit would catch more fish if allowed by regulations, and adds fish to those intercepts in a decaying manner. For example, if the proposed bag represents a 1 fish increase from the current bag limit, 1 fish is added to intercepts at the current bag limit. The Poisson approach assumes the intercepts come from a Poisson distribution (a discrete probability distribution) and then calculates the probability of observing each bag

size under that assumed distribution. The Poisson distribution approach indicated a higher increase in harvest under the proposed changes (Table 1); therefore this approach was deemed more conservative and used as the basis for the proposed changes.

**Table 1:** Estimated harvest under current regulations and proposed bag limits of 5 and 6 fish. The estimates from the two different methods are presented, along with the estimated percent change in harvest resulting from those changes. Note: for wave 5, there was a reduction due to a bag increase; this is an artifact of rounding (harvest and wp\_catch), and assumed negligible in the aggregate analysis.

Wave	Proposed Bag	Current	Add	Pois	Add.Per	Pois.Per
3	5	2,695	3,126	2,776	16%	3%
4	5	20,376	21,394	24,044	5%	18%
5	5	7	6	6	-14%	-14%
<b>Total</b>		23,078	24,536	26,826	6%	16%
3	6	2,695	3,342	3,018	24%	12%
4	6	20,376	21,802	24,655	7%	21%
5	6	7	6	6	-14%	-14%
<b>Total</b>		23,078	25,150	27,679	9%	20%

**TC Feedback:** The TC agreed that the analysis was technically sound and took no issue with the approach used.

**TC Recommendation: Approve**

**Rhode Island**

The 2017 Rhode Island’ summer flounder regulations were: 19” min size, 4 fish bag limit, and season of May 1-December 31. These regulations resulted in the estimated recreational harvest of approximately 60,000 fish (assuming a small amount of harvest for wave 6 as this is currently unknown). 2017 harvest was a 31% decrease from 2016 harvest levels. A 17% liberalization in harvest from 2017 levels will result in a 2018 harvest target for Rhode Island of approximately 70,200 fish.

The state of Rhode Island put forward one proposed option for 2018: maintaining the 19” minimum size limit, **increasing the possession limit to 6 fish** and maintaining the 2017 season length and open dates for 2018 (May 1-December 31). These proposed changes result in projected 4% increase in harvest in 2018.

**Analysis:**

Bag analysis used preliminary 2017 MRIP data through wave 5. Intercept data representing compliant harvest were used; however the percentage of non-compliant harvest was calculated, and added back in to estimate the harvest increase associated with bag limit changes. Three approaches were explored: 1) Additive approach, 2) Poisson approach, and 3) Negative Binomial approach. The additive approach assumes that every intercept hitting the current bag limit would catch more fish if allowed by regulations, and adds fish to those intercepts in a decaying manner. For example, if the proposed bag represents a 1 fish increase from the current bag limit, 1 fish is added to intercepts at the current bag limit. If it is a 2-

fish increase, 1.5 fish are added to each intercept at the bag limit. For this analysis, a 5 and 6 fish bag were evaluated. The Poisson and Negative Binomial approaches assumes the intercepts come from a Poisson or Negative Binomial distribution and then calculates the probability of observing each bag size under that assumed distribution. The parameters for the distribution are derived from the harvest per angler for 2017 through wave 5.

Under a 5-fish bag limit, the additive approach estimated a 1.3% increase in harvest, the Poisson approach estimated a 2.5% increase in harvest, and the Negative Binomial approach estimated a 3% increase in harvest. A 6-fish bag would increase harvest by 3.4% using the additive approach, 4% using the Poisson approach, and 3.3% using the Negative Binomial approach (Table 2).

**Table 2: Estimated percent change in harvest under proposed bag limits of 5 and 6 fish. The estimates from the three different methods are presented.**

<b>Proposed Bag</b>	<b>Addition Percent Change</b>	<b>Negative Binomial Percent Change</b>	<b>Poisson Percent Change</b>
<b>5</b>	<b>1.3%</b>	<b>2.5%</b>	<b>3%</b>
<b>6</b>	<b>3.4%</b>	<b>3.3%</b>	<b>4%</b>

Analysis was conducted looking at changes to the minimum size using three approaches as well (poission and negative binominal were used here as well; a lognormal distribution was used instead of the additive approach). As these results from these modeling approaches showed variance across all three approaches as well as uncertainty around whether changes small minimum size adjustment would generate greater than 17% increase it harvest, the state of Rhode Island decided not to put forward any changes in minimum size.

TC Feedback: As noted in the attendance, a TC rep from Rhode Island was not on the call but the TC found that the analysis was technically sound and took no issue with the approach used.

**TC Recommendation: Approve**

**Connecticut-New York**

The 2017 Connecticut and New York regional summer flounder regulations were: 19” min size, 3 fish bag limit, and season of May 17 -September 21 (128 days). These regulations resulted in the estimated recreational harvest of approximately 1,231,087 fish. 2017 harvest was a 90% decrease from 2016 harvest levels. A 17% liberalization in harvest from 2017 levels will result in a 2018 harvest target for the region of Connecticut-New York of approximately 1,440,372 fish.

The region put forward four proposed option for 2018:

- 1) 19” min size, 3 fish bag limit, and season of **May 1-September 30 153 day** (13.3% increase in harvest)
- 2) 19” min size, **4 fish bag limit**, and season of **May 1-September 30 153 day** (18% increase in harvest)

- 3) 19" min size, **4 fish bag limit**, and season of **May 4-September 30 151 day** (16.5% increase in harvest)
- 4) **18.5" min size**, 3 fish bag limit, and season of *May 25-September 8 107 day\** (17.3% increase in harvest)

\*Italics indicate decrease in season length from 2017

#### Analysis:

MRIP harvest estimates from 2016-2017 from both states were aggregated. Two approaches were used to evaluate adjustments to the minimum size limit 1) Natural logarithm, which showed that decreasing size limit by ½ inch would increase harvest by 27.8%; 2) Generalized Linear Model (GLM) using R code showed the same change in size limit would increase harvest by 24.7%. Based on these results, the TC members from these states decided to use the natural log analysis to generate options. For evaluating possession limit, individual landings by intercept were divided by the number of intercept contributors to generate a per angler take. Going from 3 fish bag limit to 4 fish bag limit under this approach increased harvest by 4.2%. for season length analysis wave specific percent per day harvest was transformed into numbers of fish (question: reminder needed of why percentage converted into numbers of fish, rather than dividing harvest by wave by number of days). Season length was manipulated resulting in new harvest sub-totals which were then further multiplied by the impact of size limit or possession limit changes (1+x).

TC Feedback: While the TC found that the analysis was technically sound and took no issue with the approach used, it was noted on the call that the 2<sup>nd</sup> and 4<sup>th</sup> options generated exceeded the 17% liberalization in harvest from 2017 levels. Based on this feedback, the TC member from the region noted that the options would be adjusted to achieve more than a 17% increase in harvest (see revised options below)

- 1) 19" min size, 3 fish bag limit, and season of **May 1-September 30 153 day** (13.3% increase in harvest)
- 2) 19" min size, **4 fish bag limit**, and season of **May 1-September 25 148 day** (17% increase in harvest)
- 3) 19" min size, **4 fish bag limit**, and season of **May 4-September 30 151 day** (16.5% increase in harvest)
- 4) **18.5" min size**, 3 fish bag limit, and season of *May 25-September 7 106 day\** (17.0% increase in harvest)

\*Italics indicate decrease in season length from 2017

#### TC Recommendation: Approve

### New Jersey

The implemented 2017 New Jersey summer flounder regulations were: 18" min size, 3 fish bag limit, and season of May 25 -September 5 (104 days). These regulations resulted in the estimated recreational harvest of approximately 433,011 fish. 2017 harvest was a 42% decrease from 2016 harvest levels. A 17% liberalization in harvest from 2017 levels will result in a 2018 harvest target for the region of New Jersey of approximately 506,623 fish.

The state of New Jersey put forward the following 3 proposed options for 2018:

- 1) 18" min size, 3 fish bag limit, and season of May 25-September 22 **121 day** (17% increase in harvest)
- 2) 18" min size, 3 fish bag limit, and season of May 22-September 20 **122 day** (17% increase in harvest)
- 3) 18" min size, 3 fish bag limit, and season of May 15-September 16 **125 day** (17% increase in harvest)

#### Analysis:

MRIP harvest estimates from 2015-2017 were used to develop an aggregated percent daily harvest rate as well as to develop a new 2017 harvest estimate. For the purposes of generating liberalized options that achieve an approximate 17% liberalization, the aggregated wave specific percent per day was converted into numbers of fish per wave. Based on this analysis, the state of New Jersey put forward proposed options that only adjusted the season length relative to 2017 measures.

TC Feedback: While the TC accepted proposed options, there was concern raised regarding the method of generating a new 2017 harvest estimate. Given the Board's motion, 17% liberalization was specific to 2017 harvest estimates, and not from a different multi-year averaging of harvest data. The issue with this latter approach is that it created a new higher harvest target for 2018 greater than a 17% liberalization from 2017 harvest. The group worked through the spreadsheet provided by the NJ TC member which was used to generate the options on the call, and the TC member corrected the harvest target for 2018.

#### TC Recommendation: Approve

### Delaware, Maryland, and Virginia

The implemented 2017 summer flounder regional regulations for the states of Delaware-Virginia were: 17" min size, 4 fish bag limit, and a year round open season (365 days). These regulations resulted in the estimated recreational regional harvest of approximately 148,190 fish. 2017 harvest was a 231% increase from 2016 harvest levels. A 17% liberalization in harvest will result in a 2018 harvest target for the region of Delaware-Virginia of approximately 173,382 fish.

The region put forward the following option for 2018:

- 1) **16.5" min size**, 4 fish bag limit, and year round open season (365 day) (13.6% increase in harvest)

#### Analysis

MRIP harvest estimates from Maryland, Delaware, and Virginia from only 2016 were used due to concerns about the incomplete dataset for 2017 and potential for harvest in wave 6 effecting harvest-at-length. A regression analysis using the logarithm transformed harvest at length. When back-transformed, all fish landed between 16" and 17" equaled 49,931 fish. Effectively they halved 49,931 and came to 24,966 fish as the increased harvest from going down a ½ inch in the size limit.

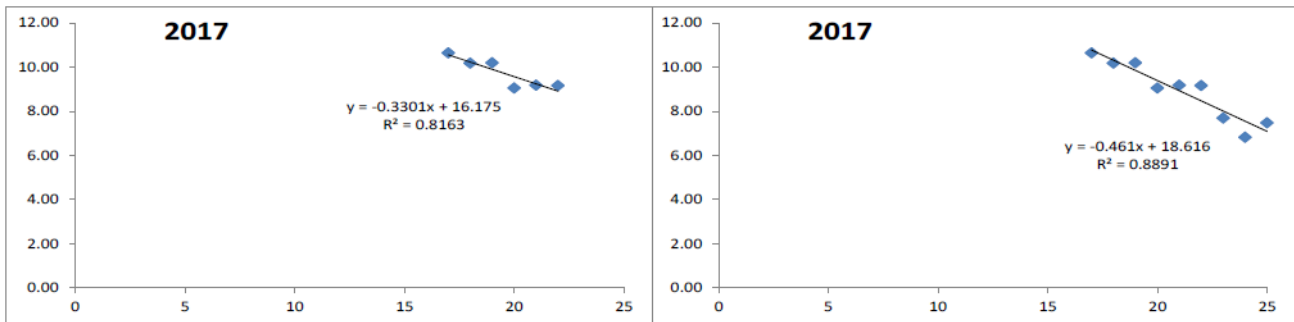
#### TC Feedback

Prior to the call and during it, TC members provided feedback that depending on the data set used, there was the potential for up 26% increase for a ½ inch decrease in size limit. Arguments were made that depending on the dataset used the best fit for the regression, different increases in harvest could be demonstrated. Based on the group's discussion, the TC members from the region offered to do

additional analysis (included below). Based on the additional analysis, **the TC recommends approval of the proposed option.**

2017 Regression

Two plausible 2017 regressions are shown below. Regression A includes a size range from 17 to 22 inches and the resulting ½” liberalization is predicted to be 18.2%. Regression B includes a size range from 17 to 25 inches and the resulting ½” liberalization is predicted to be 25.7%.



In 2015 and 2016, the size limit was 16.0” so no regression is necessary to calculate the effect of a ½” regulation change from 16.5” to 17.0”. The % total harvest between 16.5” to 17.0” in 2015 was 12.5%. The % harvest in 2016 was 11.9%. These percentages are also consistent with the predicted harvest change (9.7%) from ½ inch size limit change in 2013 Conservation Equivalency proposals in Delaware.

*Summary*

Analysis	% Harvest Change	Liberalization (Numbers)
2015 Observed harvest-at-length	12.5%	19,125
2016 Observed harvest-at-length	11.9%	18,207
2016 Regression	13.6%	20,808
2017 Regression A	18.2%	27,846
2017 Regression B	25.7%	39,321
Average	16.4%	25,061

Although the liberalizations range considerably from 12% to 26%, the difference between the lowest and highest predictions is about 21,000 fish given the relatively minor harvest occurring in the Delaware-Virginia region.



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*Governor*  
**Karyn E. Polito**  
*Lieutenant Governor*  
**Matthew A. Beaton**  
*Secretary*  
**Ronald Amidon**  
*Commissioner*  
**Mary-Lee King**  
*Deputy Commissioner*

**To:** ASMFC Summer Flounder Technical Committee

**From:** Tiffany Cunningham

**RE:** Proposed summer flounder recreational harvest measures for Massachusetts in 2018

**Date:** January 18, 2018

For the 2017 recreational fishing season, Massachusetts adopted a 17" minimum size, a 4 fish bag limit, and fishing season that extended from May 22nd - September 23rd. The coastwide recreational harvest for 2017 is projected to be approximately 15% below the 2017 recreational harvest limit (RHL) of 3.77 million pounds. The TC has proposed a 17% liberalization, as that is the difference between the 2017 and 2018 RHL, as put forth by the most recent stock assessment. The Board decided to cap the liberalization for 2018 at 17% over the projected 2017 harvest at the time of that meeting in December (~3.28 million pounds). To achieve the 17% liberalization, changes to the minimum fish size (17"), 4 fish bag limit, and possible season length extensions have been evaluated. The harvest in MA for 2017 was estimated to be about 25,669 fish, suggesting a potential increase in harvest of about 4,364 fish.

Our analyses indicate that a liberalization to a 5 fish bag limit and a modest increase in the season length (May 23rd - October 9th) would constrain summer flounder recreational harvest in Massachusetts to 30,033 fish, the equivalent of a 17% liberalization.



We have evaluated several approaches for the bag and size limit analyses and have selected the more conservative approaches to minimize the probability of exceeding the RHL. The analyses for the bag, size, and season changes are presented below in detail. This work was done in R; the code is available upon request.

## **Bag analysis**

This bag analysis uses preliminary MRIP data through wave 5, as wave 6 is not expected to yield any summer flounder harvest. Intercept data representing compliant harvest were used; however the percentage of non-compliant harvest was calculated, and added back in to estimate the harvest increase associated with bag limit changes (Table 1), under the assumption that the level of non-compliance will remain constant for the 2018 fishing year.

We evaluated two general approaches currently being used by the TC for bag analyses: 1) additive approach, and 2) Poisson approach. The additive approach assumes that every intercept at the current bag limit would catch more fish if allowed by regulations, and adds fish to those intercepts in a decaying manner. For example, if the proposed bag represents a 1 fish increase from the current bag limit, 1 fish is added to intercepts at the current bag limit. If it is a 2 fish increase, 1.5 fish are added to each intercept at the bag limit. For this analysis, a 5 and 6 fish bag were evaluated (max bag difference of 2 fish). The Poisson approach assumes the intercepts come from a Poisson distribution (with estimated  $\lambda$  parameter) and then calculates the probability of observing each bag size under that assumed distribution.

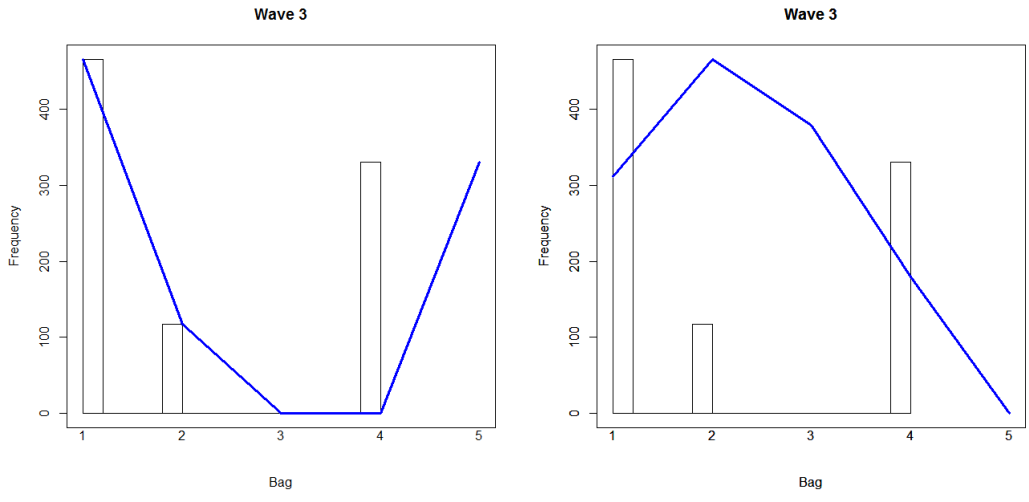
## **Bag results**

Under a 5 fish bag limit, the additive approach estimated an approximate 6% increase in harvest and the Poisson approach estimated an approximate 16% increase in harvest. A 6 fish bag would increase harvest by 9% using the additive approach and by about 20% using the Poisson approach (Table 1).

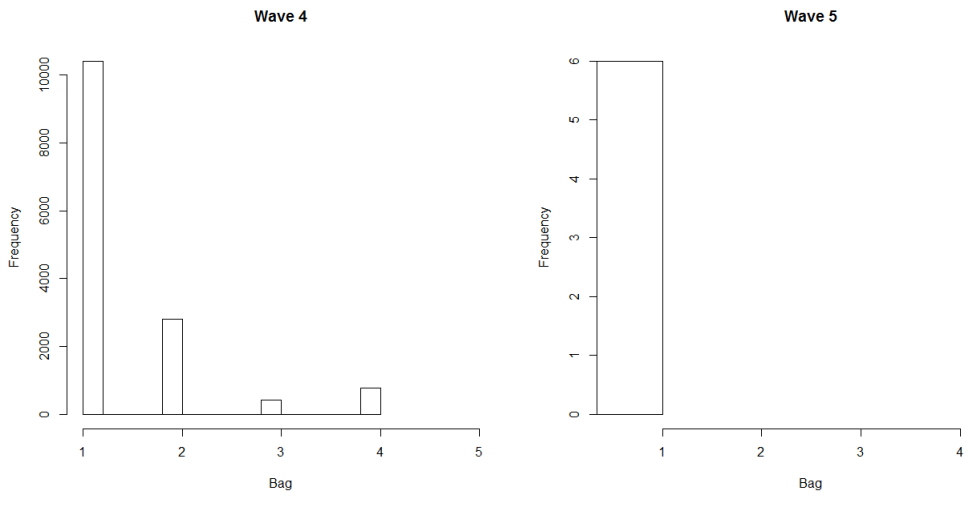
**Table 1:** Estimated harvest under current regulations and proposed bag limits of 5 and 6 fish. The estimates from the two different methods are presented, along with the estimated percent change in harvest resulting from those changes. Note: for wave 5, there was a reduction due to a bag increase; this is an artifact of rounding (harvest and wp\_catch), and assumed negligible in the aggregate analysis.

<b>Wave</b>	<b>Proposed Bag</b>	<b>Current</b>	<b>Add</b>	<b>Pois</b>	<b>Add.Per</b>	<b>Pois.Per</b>
3	5	2,695	3,126	2,776	16%	3%
4	5	20,376	21,394	24,044	5%	18%
5	5	7	6	6	-14%	-14%
<b>Total</b>		23,078	24,536	26,826	6%	16%
3	6	2,695	3,342	3,018	24%	12%
4	6	20,376	21,802	24,655	7%	21%
5	6	7	6	6	-14%	-14%
<b>Total</b>		23,078	25,150	27,679	9%	20%

There are obvious differences between the two approaches and that is largely due to the distribution of bag sizes intercepted by MRIP. Figure 1 shows the distribution of bag sizes for wave 3 in Massachusetts, the estimated harvest using the additive approach (left), and the probability mass function from the Poisson distribution (right). It is assumed that in reality there is a decaying frequency of harvests at increasing bag sizes (e.g., Figure 2 from wave 4). Anecdotally, the discard to kept ratio in Massachusetts is quite high, perhaps 20:1. As a result, we assumed that the Poisson distribution is a more accurate representation of angler activity, although not always a good fit to the MRIP data. Using this approach was also more conservative as compared to the estimates from the additive approach.



**Figure 1:** Distribution of MRIP intercepts at the different bag sizes for 2017 in wave 3, with the blue line indicating estimated harvest by the additive approach (left) and the Poisson approach (right).



**Figure 2:** Distribution of MRIP intercepts at the different bag sizes for 2017 in waves 4 and 5. There were relatively few (none in wave 5) intercepts at the bag limit, hence a small increase using the additive approach.

### Season analysis

Assuming the bag and size limit remain the same, catch per day was analyzed, by wave, to evaluate how the season could be extended to achieve a 17% liberalization. Harvest data from 2017 was used for this analysis. Based on a liberalization of 4,364 fish, we could potentially extend the season to include all of

waves 3 & 5, with an underutilization of 2,017 fish, without any changes to bag or size.

**Table 2:** A description of the number of days open for recreational summer flounder fishing in 2017, by wave, and the estimated harvest rate per day during those waves.

<b>Wave</b>	<b>Days open</b>	<b>Harvest</b>	<b>Harvest/day</b>	<b>%/day</b>
3	40	3,176	79.4	0.31
4	62	22,080	356.1	1.38
5	23	412	17.9	0.07

Based on these results, we are proposing the following combination of bag and season changes. The harvest rates per day were increased by 16%; the estimated increase associated with a 5 fish bag.

Therefore, the harvest rates per day for the extended season, were as described in Table 3.

**Table 3:** Harvest rates per day scaled up by 16% to reflect changes in the bag size to a 5 fish limit.

<b>Wave</b>	<b>Harvest/day</b>
3	92.1
4	413.1
5	20.8

Priority, for angler satisfaction, was to create a season that extends from Memorial Day (May 25th) weekend through Indigenous Peoples’/Columbus Day weekend (October 8th). This season would shorten the current wave 3 season by 3 days, but lengthen wave 5 by 15 days. Under this combination of measures, we estimate harvest to be,

$$(37 \cdot 92.1) + (62 \cdot 413.1) + (38 \cdot 20.8) = 29,810$$

resulting in an underutilization of 222 fish. To fully utilize the 17%, we extended the season to begin on May 23rd and end on October 9th, resulting in the full 17% liberalization.

$$(39 \cdot 92.1) + (62 \cdot 413.1) + (39 \cdot 20.8) = 30,015$$

Table 4 reflects a summary of our proposed measures.

**Table 4:** Proposed harvest measures for the Massachusetts recreational summer flounder fishery in 2018.

<b>Min size</b>	<b>Bag</b>	<b>Season</b>	<b>% Increase</b>
17 "	5 fish	May 23rd - October 9th (140 days)	~17%

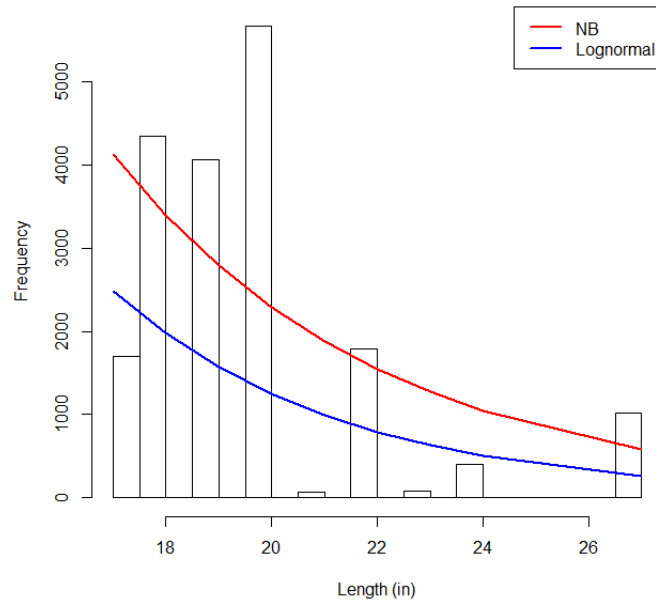
## Supplemental information

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We evaluated potential changes to the minimum fish size; however, it was determined that a liberalization on the minimum size would pose too great a threat of excess harvest, and therefore, was not proposed for 2018. The size analysis is presented here for reference.

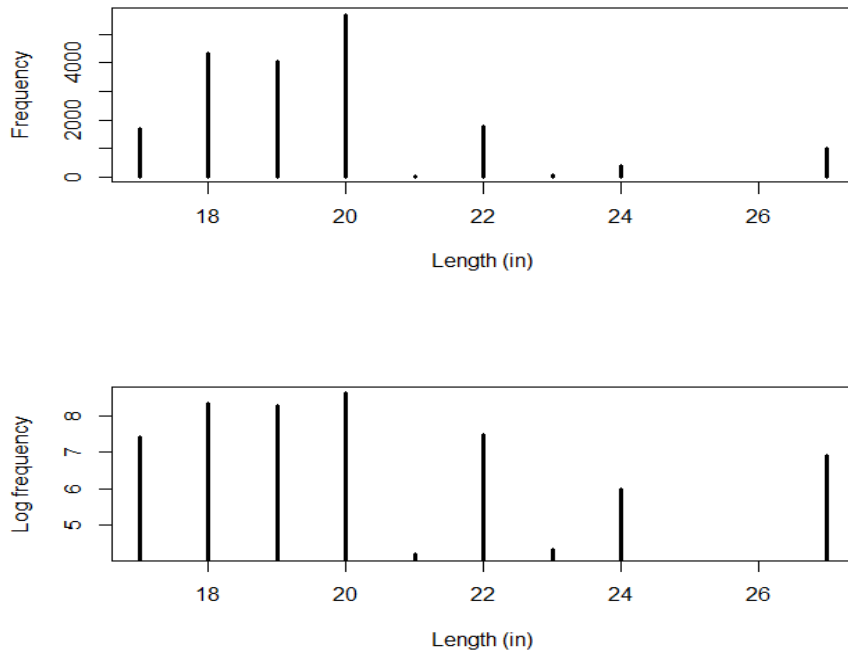
### Minimum fish size

To assess changes to the minimum fish size, length frequency data from the recreational fishery for the past year (2017), collected through MRIP, were used. The frequency of harvest was regressed on fish size using two different models: 1) a linear regression on  $\log_e$  transformed length frequencies, and 2) a negative binomial regression. Predicted harvest at length (Figure 3), from the two models, was used to evaluate the expected increase by reducing the minimum fish size by one inch (down to 16"). The log-linear regression model estimated a harvest increase of about 16% while the negative binomial model estimated an increase of approximately 26%.



**Figure 3:** Histogram of MRIP length frequencies from 2017, with predicted log-linear (blue) and negative binomial (red) regression lines.

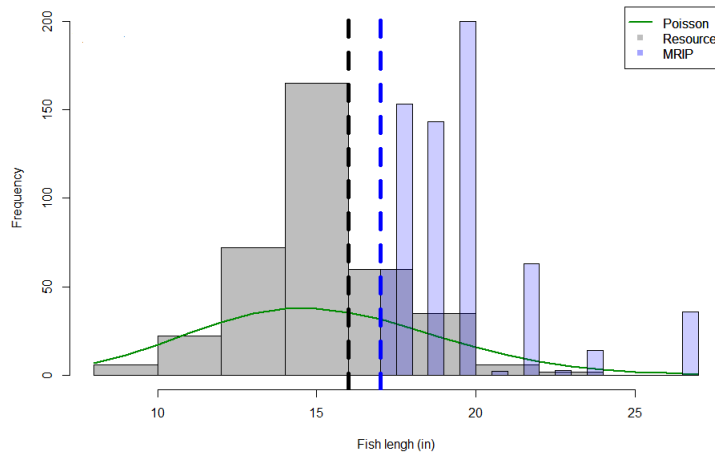
Figure 4 illustrates the length frequencies from MRIP (top), and the log-transformed frequencies (bottom). An important assumption of the log-linear regression is that these data are linear on the log scale.



**Figure 4:** Length frequencies from MRIP sampling in 2017 in Massachusetts (top); and  $\log_e$  transformed length frequencies on the bottom.

The MA DMF spring trawl survey data were also evaluated as the length frequencies from the survey could be considered more representative of the size distribution of the fluke population, than the MRIP length frequencies. Based on the trawl survey length data and estimates from a Poisson regression, a change to a 16” minimum size would increase harvest by about 28% (Figure 5).





**Figure 5:** Length frequencies from the MA trawl survey (gray histogram), with the MRIP length frequencies (blue histogram). The green line is the probability mass function from the Poisson regression. The vertical bars depict the current size limit of 17" (blue) and the proposed size limit of 16" (black).

Rhode Island



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To: ASMFC Summer Flounder Technical Committee

From: Jason McNamee

RE: Proposed summer flounder recreational harvest measures for Rhode Island in 2018

Date: January 13, 2018

### **Background and summary**

Per the requirements of Addendum XXVIII, Rhode Island implemented a 19" minimum size, a 4-fish bag limit, and a fishing season that extended from May 1st – December 31<sup>st</sup> for the 2017 recreational season. The coastwide recreational harvest for 2017 is projected to be approximately 15% below the 2017 recreational harvest limit (RHL) of 3.77 million pounds. The Board concurred with advice of the technical committee (TC) in deciding to cap the liberalization in summer flounder recreational harvest for 2018 at 17% over the projected 2017 harvest. To achieve the 17% liberalization, changes to the minimum fish size (19") and bag limit have been evaluated. The season in RI spans the entirety of the period when summer flounder are available to the recreational fishery, therefore season changes were not evaluated. The harvest in RI for 2017 was estimated to be approximately 60,000 fish, suggesting a potential increase in harvest to approximately 70,200 fish. This analysis indicates that a liberalization to a 6-fish bag limit would constrain summer flounder recreational harvest in RI to ~62,400 fish, well under the allowable 17% liberalization. There is not enough room in the liberalization to decrease the size limit for 2018 without risking an overage during a period of high uncertainty given the upcoming benchmark assessment for summer flounder, and the major changes that are forthcoming in the Marine Recreational Information Program (MRIP) methodology.

### **Bag analysis**

The bag analysis uses preliminary MRIP data through wave 5. Wave 6 is not a period of high landings in RI for summer flounder, therefore these analyses are presumed to be adequate for specification setting for 2018. Intercept data representing compliant harvest were used; however the percentage of non-compliant harvest was calculated, and added back in to estimate the harvest increase associated with bag limit changes (Table 1), under the assumption that the level of non-compliance will remain constant for the 2018 fishing year.

Three approaches currently being used by the TC for bag analyses were investigated: 1) Additive approach, 2) Poisson approach, and 3) Negative Binomial approach. The additive approach assumes that every intercept hitting the current bag limit would catch more fish if allowed by regulations, and adds fish to those intercepts in a decaying manner. For example, if the proposed bag represents a 1 fish increase from the current bag limit, 1 fish is added to intercepts at the current bag limit. If it is a 2-fish increase, 1.5 fish are added to each intercept at the bag limit. For this analysis, a 5 and 6 fish bag were evaluated. The Poisson and Negative Binomial approaches assumes the intercepts come from a Poisson or Negative Binomial distribution and then calculates the probability of observing each bag size under that assumed distribution. The parameters for the distribution are derived from the harvest per angler for 2017 through wave 5. These two approaches use a theoretical assumption about how fishing success changes as bag limits increase, which scales directly with the size of the harvest. The shape of these distributions is that the success of harvesting another summer flounder decreases as the bag limits increase, which seems to be corroborated by the empirical information (Figure 1).

### **Bag results**

Under a 5-fish bag limit, the additive approach estimated a 1.3% increase in harvest, the Poisson approach estimated a 2.5% increase in harvest, and the Negative Binomial approach estimated a 3% increase in harvest. A 6-fish bag would increase harvest by 3.4% using the additive approach, 4% using the Poisson approach, and 3.3% using the Negative Binomial approach (Table 1).

In any of the approaches used, the predicted increase is lower than the allowed liberalization, therefore a preferred approach was not selected but all are presented to indicate the amount of certainty there is in the proposed management plan in RI.

### **Minimum size analysis**

To calculate potential changes in harvest if the minimum size were to be lowered in RI, the MRIP harvest at length dataset for 2017 was used. To account for uncertainty in the harvest at length data, a series of generalized linear models were developed for the dataset which analyzed harvest relative to fish total size. Three approaches were used: 1) Lognormal, 2) Poisson, and 3) Negative Binomial. The models were run and compared by AIC to determine the best fitting model. All models were run on the same data and used the following formula:

Harvest ~ Length in inches

### **Minimum size analysis results**

The best fitting model for the data was the Negative Binomial model, but all of the models appear to do a good job at fitting the data (Figure 2). Depending on the model, the increase for even a half inch decrease in minimum size can account for the entire liberalization. Given that there is variance across models and given the fact that all of the models have internal uncertainty around the mean estimate, which can overlap with and exceed the target, management changes using minimum size adjustments were deemed too risky for specification setting in 2018. The results of the regressions can be found in Table 2 and in Figure 2.

**Option**

Rhode Island wishes to propose only a change to the bag limit for 2018. The management program in RI is proposed to be:

- 1. A minimum size of 19”**
- 2. A season from May 1 – December 31**
- 3. A 6-fish bag limit**

This configuration keeps RI well within the allowed 17% liberalization for 2018.

Table 1: Estimated percent change in harvest under proposed bag limits of 5 and 6 fish. The estimates from the three different methods are presented.

<b>Proposed Bag</b>	<b>Addition Percent Change</b>	<b>Negative Binomial Percent Change</b>	<b>Poisson Percent Change</b>
<b>5</b>	<b>1.3%</b>	<b>2.5%</b>	<b>3%</b>
<b>6</b>	<b>3.4%</b>	<b>3.3%</b>	<b>4%</b>

Table 2. The projected effects of various size limits on the 2017 summer flounder recreational landings in the Rhode Island, calculated as percent increase from current management.

	<b>18”</b>	<b>18.5”</b>	<b>19”</b>
<b>Negative Binomial</b>	<b>29%</b>	<b>14%</b>	<b>0%</b>
<b>Poisson</b>	<b>37%</b>	<b>17%</b>	<b>0%</b>
<b>Lognormal</b>	<b>31%</b>	<b>15%</b>	<b>0%</b>

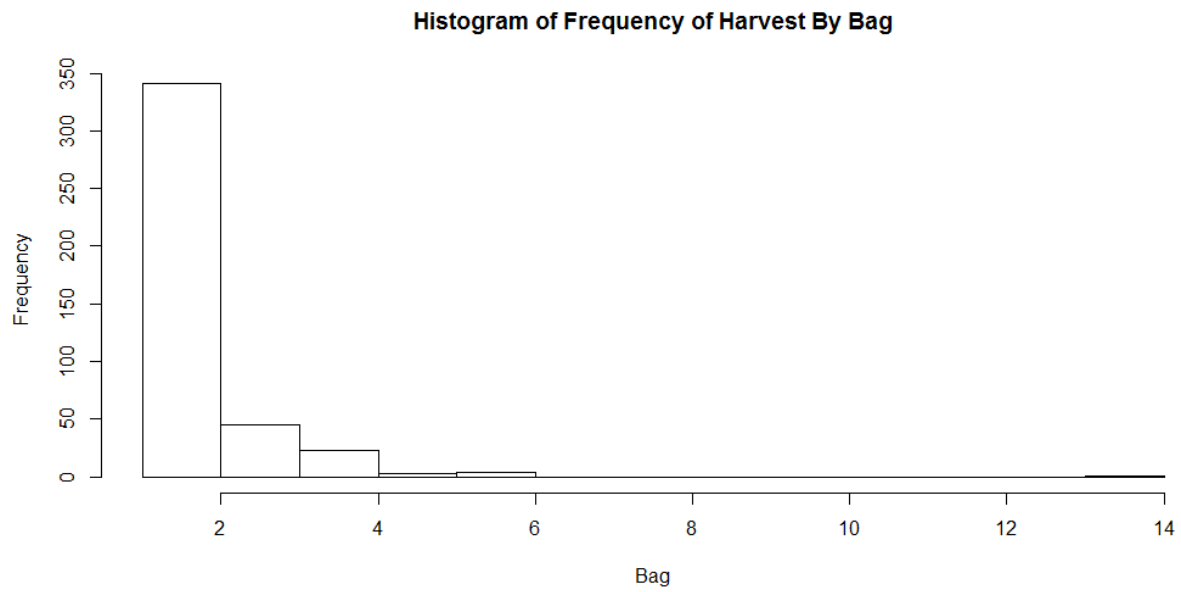


Figure 1. Empirical data for the frequency of fish harvested at different bag sizes in RI in 2017 through wave 5.

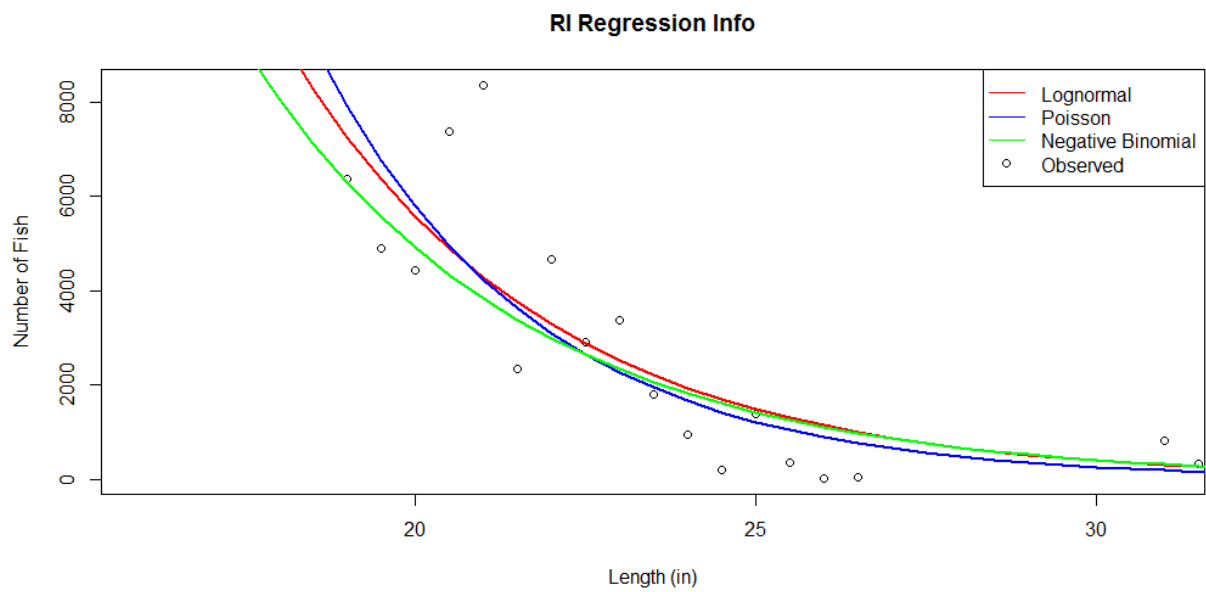


Figure 2. Model fits to the observed 2017 harvest at size data through wave 5.



Fisheries Division  
333 Ferry Rd,  
Old Lyme CT 06371  
Rob Klee, Commissioner



Division of Marine Resources  
205 N. Belle Mead Rd, Suite 1  
East Setauket, NY 11733  
Basil Seggos, Commissioner

**TO:** ASMFC Summer Flounder Technical Committee  
**FROM:** John Maniscalco & Gregory Wojcik  
**DATE:** January 17, 2018  
**SUBJECT:** Proposal for regional liberalization of Connecticut and New York recreational summer flounder measures

At the joint ASMFC-MAFMC Meeting in Annapolis, MD in December 2017 the Board moved to extend Addendum XXVIII through 2018, re-established regional conservation equivalency for the recreational summer flounder fishery, and set a de-facto 2018 coastwide recreational harvest *target* of 3.78 million pounds. This *target* is based upon the 17% liberalization of the projected 2017 coastwide recreational harvest at the time (thru Wave 4 data, 3.23 million pounds) and differs from the 2018 RHL of 4.42 million pounds. The current projected 2017 coastwide recreational harvest (thru Wave 5 data) is 3.1 million pounds, differing from the 2018 *target* by 21.9% and the 2018 RHL by 42.6%. Recreational summer flounder harvest by the coast in 2017 is expected to be well under the 2017 RHL of 3.77 million pounds. Below is the conservation equivalency proposal and methodology for the liberalization, by approximately 17%, of recreational summer flounder measures in the Connecticut and New York region. The options provided (table below) are subject to change, but any new measures will be developed consistently with the methods detailed below.

## Methodology

Regional measures can be liberalized using any combination of changes to season, minimum size limit, and/or possession (bag) limit. The season did not change between 2016 and 2017 which allowed for the use of multiple years of data for this metric. However, both possession limit and minimum size changed for the 2017 fishing year so only 2017 data was used for those analyses.

To determine the impact of changes to season, harvest by both states from 2016 and 2017 was aggregated. Harvest at the individual year, state, and wave level was highly variable but the aggregated percent per day open in each wave was fairly consistent between the two states and the region as a whole. See the associated spreadsheet for details.

To determine the impact of changes to the minimum size limit, landings at length in half inch bins for both states combined were generated from size.csv files, downloadable from MRIP. A straight line was fitted to the natural log of the numbers of fish in each half inch bin. This relationship was then used to predict the number of fish that would be additionally available to regional anglers if the size limit was reduced from 19.0 inches

to 18.5 inches (+27.8%). A GLM based alternative analysis was done using R code developed by Jason McNamee (RI) on the same dataset yielding similar but slightly less conservative results (+24.7%). The more conservative (+27.8%) estimate was used for the generation of options. See the associated spreadsheet for details.

To determine the impact of changes to the possession limit, weighted landings by angler for both states were tabulated from catch.csv and trip.csv files, downloadable from MRIP. Individual landings by intercept were divided by the number of intercept contributors to generate a per angler take. All intercepts with 3 fish (the 2017 possession limit) were increased to 4 fish and the weighting (wp\_catch) re-applied and summed for total harvest. Non-compliant landings were left unchanged. This method may underestimate the number of intercepts that “limit out” under 2017 measures, although this is compensated for by the assumption that all intercepts that limit out in 2017 under a 3 fish limit would harvest 4 fish in 2018. The relative change in harvest (+4.2%) was used to generate options with a 4 fish possession limit. See the associated spreadsheet for details.

For the purposes of generating options that achieve an approximately 17% liberalization, the aggregated wave-specific percent per day were transformed into numbers of fish. Season length was manipulated resulting in new harvest sub-totals which were then further multiplied by the impact of size limit or possession limit changes (1+x). The change in harvest under measures proposed in each option, relative to the aggregated 2-year total were then compared. See the associated spreadsheet for details.

<b>OPTION</b>	<b>SIZE</b>	<b>BAG</b>	<b>TOTAL DAYS</b>	<b>SEASON</b>	<b>CHANGE</b>
STATUS QUO	19"	3	128	5/17-9/21	0.0%
1	19"	3	153	5/1-9/30	13.3%
2	19"	4	148	5/1-9/25	17.0%
3	19"	4	151	5/4-9/30	16.5%
4	18.5"	3	106	5/25-9/7	17.0%



NEW JERSEY DIVISION OF  
**Fish and Wildlife**  
P.O. Box 400  
Trenton, NJ 08625-0400  
Larry Herrighty, Director

## Memorandum

TO: Kirby Rootes-Murdy, FMP Coordinator  
Atlantic States Marine Fisheries Commission

FROM: Peter Clarke, Senior Biologist  
New Jersey Bureau of Marine Fisheries

DATE: January 16, 2018

SUBJECT: NJ Summer Flounder Recreational Fishery Management Proposal for 2018

Attached are New Jersey's options to manage its 2018 recreational summer flounder fishery. Each option contains only adjustments to season with no changes in size limit or bag limit. All options satisfy the requirements of conservation equivalency as established by the Atlantic States Marine Fisheries Commission (ASMFC). A spreadsheet is included with calculations used to develop changes in season length. These calculations have been provided to the ASMFC summer flounder, scup, black sea bass technical committee for review.

### **Background:**

At the joint ASMFC-MAFMC meeting in December 2017, the ASMFC Summer Flounder, Scup and Black Sea Bass Management Board (Board) moved to extend Addendum XXVIII through 2018, re-establishing conservation equivalency for the recreational summer flounder fishery in 2018, and specifying that any modifications to state measures in 2018 should result in no more than a 17% liberalization in coastwide harvest relative to the projected 2017 harvest of 3.23 million pounds.

### **Methodology:**

State measures can be liberalized using three variables; change to season, size limit, or possession limit or a combination of the three. New Jersey opted to change only season for the liberalization of their 2018 recreational summer flounder measures. MRIP harvest estimates between 2015 and 2017 are highly variable between years, wave, and mode. Between 2015 and 2016, harvest estimates were 66% higher in 2016 with no change in regulations (18 inch size limit, 5 fish possession limit, 128 day season). In 2017, NJ decreased both the season length from 128 days to 104 days and the possession limit from 5 fish to 3 fish. Landings decreased 43



percent between 2017 and 2016 either from management measures or as an artifact of MRIP sampling. To account for the variability in MRIP harvest estimates, NJ used an average percent daily harvest rate based on three years to establish a percent daily harvest rate then applied to the 2017 harvest estimates by wave (see included spreadsheet). For the purposes of generating liberalized options that achieve an approximate 17% liberalization, the wave specific percent per day was converted into numbers of fish per wave. The below table describes example options that will be considered for New Jersey's 2018 recreational summer flounder fishing year.

Option	Size	Bag	Season	Total Days	Change
Status Quo	18	3	May 25-Sept 5	104	
1	18	3	May 25 - Sept 22	121	16.78%
2	18	3	May 22 - Sept 20	122	16.59%
3	18	3	May 15-Sept 16	125	16.83%



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES &  
ENVIRONMENTAL CONTROL  
**DIVISION OF FISH & WILDLIFE**  
89 Kings Highway  
Dover, DE 19901

**Phone: (302) 739-9914**  
**Fax: (302) 739-6157**

**FISHERIES SECTION**

TO: Summer flounder, black sea bass, scup Technical Committee, ASMFC  
FROM: Richard Wong  
DATE: January 11, 2018  
SUBJECT: Delaware, Maryland, Virginia proposal for summer flounder recreational fishery management

***Delaware-Maryland-Virginia summer flounder management for 2018***

Under the provisions of Addendum XXVIII, Delaware, Maryland, and Virginia will implement uniform recreational fishing measures. The following measures may be presented as options for 2018.

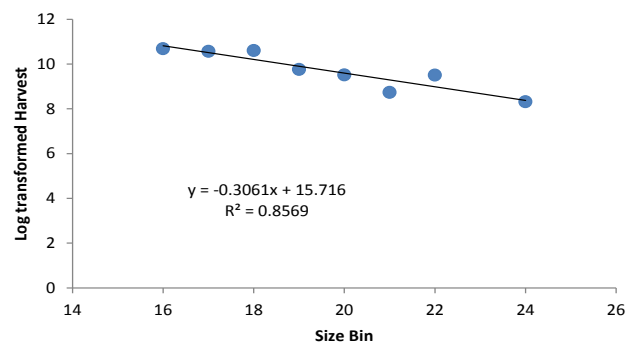
Size Limit	Bag Limit	Season	Expected Harvest Change
17.0	4	No closure	0% status quo
16.5	4	No closure	13.6% liberalization

***Review of Measures and Harvest for DMV region***

Year	Size Limit	Bag Limit	Season	Harvest (000s)
2017	17.0	4	No closure	153
2016	16.0	4	No closure	184
2015	16.0	4	No closure	254
2014	16.0	4	No closure	312

***Methods***

The harvest liberalization resulting from a ½ inch reduction in size limit was quantified by using the regression of the log transformed harvest-at-length landed in DE, MD, and VA in 2016 (MRIP data), the most recent, full-year, harvest-at-length data. When back-transformed, all fish landed between 16” and 17” equaled 49,931. We make the assumption that half of that total will be landed between 16.5” and 17.0”, equaling 24,966 fish. The percent liberalization was calculated by:

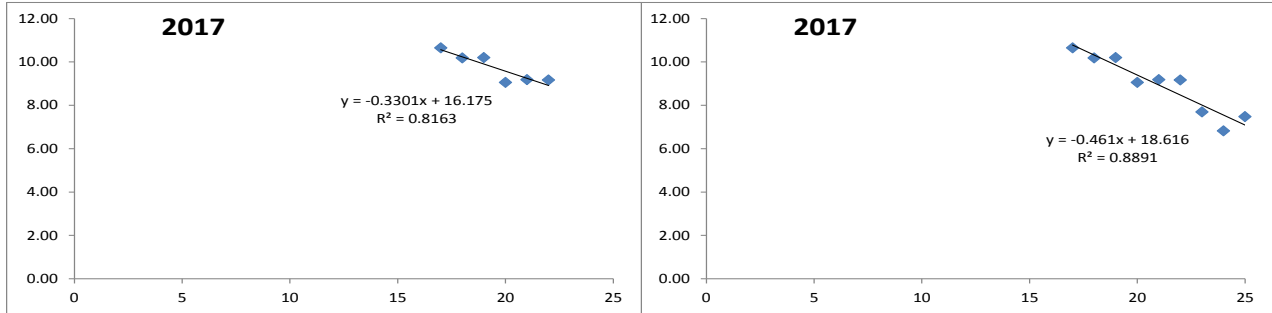


$$\% \text{ liberalization} = \frac{\text{landed fish between 16.5" and 17.0"}}{\text{all landed fish}} = \frac{24,966}{183,774} = 13.58\%$$

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through Science and Service***

2017 Regression

Two plausible 2017 regressions are shown below. Regression A includes a size range from 17 to 22 inches and the resulting 1/2" liberalization is predicted to be 18.2%. Regression B includes a size range from 17 to 25 inches and the resulting 1/2" liberalization is predicted to be 25.7%.



2015 And 2016 Observed Harvest At Length Data

In 2015 and 2016, the size limit was 16.0" so no regression is necessary to calculate the effect of a 1/2" regulation change from 16.5" to 17.0". The % total harvest between 16.5" to 17.0" in 2015 was 12.5%. The % harvest in 2016 was 11.9%. These percentages are also consistent with the predicted harvest change (9.7%) from 1/2 inch size limit change in 2013 Conservation Equivalency proposals in Delaware.

**Summary**

Analysis	% Harvest Change	Liberalization (Numbers)
2015 Observed harvest-at-length	12.5%	19,125
2016 Observed harvest-at-length	11.9%	18,207
2016 Regression	13.6%	20,808
2017 Regression A	18.2%	27,846
2017 Regression B	25.7%	39,321
Average	16.4%	25,061

I would prefer not to rely solely on the 2017 data for a couple of main reasons.

1. 2017 data do not contain wave 6 harvest, which likely contributes data in the largest size bins. The effect of omitting large fish in the regression would be an increasing slope and steeper predicted harvest in the 16" bin. The slope can be heavily impacted by even a couple thousand fish at the larger size bins.
2. Also, I would rather utilize observed harvest at 16" in 2015 and 2016 rather than to predict this harvest bin by regression. The regression method is highly variable and very sensitive to the user's selection of length bins.

Although the liberalizations range considerably from 12% to 26%, the difference between the lowest and highest predictions is about 21,000 fish given the relatively minor harvest occurring in the DMV. If the TC feels that 2017 data is the most appropriate, I would be glad to remove the 1/2" size limit liberalization given that it's above the 17% target liberalization. Thanks for the consideration.

## Kirby Rootes-Murdy

---

**From:** Capt. TJ Karbowski <tedkarbowski@yahoo.com>  
**Sent:** Wednesday, December 27, 2017 1:37 PM  
**To:** Kirby Rootes-Murdy  
**Subject:** MIRP Fluke Data

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hi Kirby. Merry Christmas and Happy Holidays.

I was just looking at the MIRP data for the year. I just wanted to give you a shout to tell you to just throw out all the numbers you have. Thankfully the numbers haven't been finalized yet. (screen shot below)

There is no way, NO WAY that Connecticut caught that many fluke in 2017, not to mention caught more fish than Rhode Island. That's where the fluke are! As discussed at the meetings, the 2016 catch is about 200,000 fish over reality. And the fact that the pse is showing confidence in that number is the most scary part! Let's not make the same mistake for 2017!

I am a professional charter boat Captain. THIS IS ALL I DO FOR A LIVING. I'm telling you, if STATEWIDE there is 100 fish landed a day it's A LOT.

FLUKE HAVE BEEN NOTHING MORE THAN AN INCIDENTAL CATCH IN LONG ISLAND SOUND SINCE THE SEA BASS TOOK OVER! (Please look at my attached charts below) (They are crude, but accurate!) I'VE BEEN DOING THIS FOR A LIVING SINCE 2003!

I'm telling you, the black sea bass have displaced the fluke. There's just rogue fish out there! The commercial draggers kill THOUSANDS of sea bass just to get their daily fluke quota. I see it with my own eyes every day! We fish the exact same areas!

Feel free to look through my business facebook posts! Hundreds of posts, virtually ZERO fluke!


This isn't New Jersey; we no longer depend on fluke because of the BILLIONS of sea bass that are now here. So I could honestly care less if you made the fluke limit 27 inches and 1 fish. That's how little we care about them. Our entire ecosystem has changed since the sea bass explosion.

I'd love to know where the surveyors are getting their numbers because I need to follow those fishermen around! I guarantee they're interviewing people at a ramp on the *extreme* Eastern end of Connecticut and those fisherman are fishing in either New York or around Block Island, and the "astute" individuals that they are, just assume that everyone from every port in Connecticut is doing the same thing.

I'd love to know how can they even come up with a number for the charter category, when no one has ever even asked me ever, and I'm the busiest boat in the state!

Connecticut is a very small state, and in the fishing world everyone knows everyone. I'm telling you if I caught 15 keepers for the season it was a lot. That's 250 trips a year with 6 lines in the water!

If you paid me 1 million dollars to take you out to catch a keeper fluke in Long Island Sound it would take us 3 days of culling through sea bass to catch one. I'm telling you the truth! I bet the number is between 1,000 and 1,500 keepers landed for the entire state of Connecticut for the season statewide! I don't even remember seeing anyone even filleting a fluke at my marina the entire season last year and my marina has 450 boat in it! DON'T TRUST THAT DATA!



# NOAA FISHERIES SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

**Your Query Parameters:**


Query:	MRIP CATCH TIME SERIES
Year:	2014 - 2017
Wave:	ANNUAL
Species:	SUMMER FLOUNDER
Geographic Area:	CONNECTICUT
Fishing Mode:	ALL MODES COMBINED
Fishing Area:	ALL AREAS COMBINED
Type of Catch:	HARVEST (TYPE A + B1)
Information:	NUMBERS OF FISH

[Return to Query Page](#)

Estimate Status	Year	Common Name	Total Harvest (A+B1)	PSE
FINAL	2014	SUMMER FLOUNDER	119,502	21.1
FINAL	2015	SUMMER FLOUNDER	93,130	29.8
FINAL	2016	SUMMER FLOUNDER	217,806	18.3
PRELIMINARY	2017	SUMMER FLOUNDER	87,136	17.4

PSE, or proportional standard error, is automatically included in all outputs. It expresses the standard error of an estimate as a percentage of the estimate and is a measure of precision. ■ A PSE value greater than 50 indicates a very imprecise estimate.

Data Sources by Geographic Area:  
MRIP: MF 1.5 (1.1.1.1) (March 2013); RP: NE USA/CRCA (March 2004)



# NOAA FISHERIES SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

**Your Query Parameters:**

Query:	MRIP CATCH TIME SERIES
Year:	2014 - 2017
Wave:	ANNUAL
Species:	SUMMER FLOUNDER
Geographic Area:	RHODE ISLAND
Fishing Mode:	ALL MODES COMBINED
Fishing Area:	ALL AREAS COMBINED
Type of Catch:	HARVEST (TYPE A + B1)
Information:	NUMBERS OF FISH

[Return to Query Page](#)

Estimate Status	Year	Common Name	Total Harvest (A+B1)	PSE
FINAL	2014	SUMMER FLOUNDER	184,660	22.5
FINAL	2015	SUMMER FLOUNDER	184,028	24.9
FINAL	2016	SUMMER FLOUNDER	86,668	20.4
PRELIMINARY	2017	SUMMER FLOUNDER	58,749	18.8

PSE, or proportional standard error, is automatically included in all outputs. It expresses the standard error of an estimate as a percentage of the estimate and is a measure of precision. ■ A PSE value greater than 50 indicates a very imprecise estimate.

I sent Caitlin this same chart the other day!

What was swimming in L. I.S. during the 2017 season.

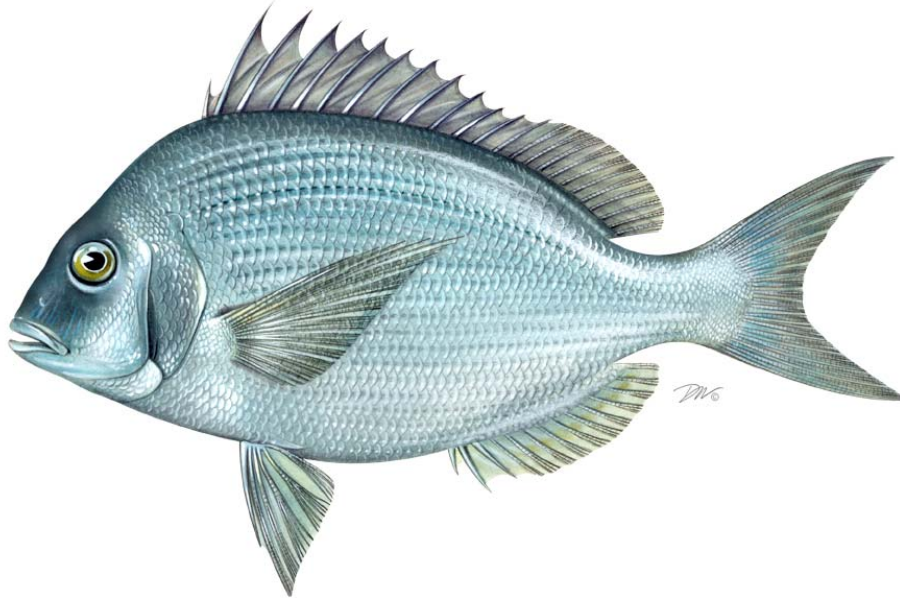
		X			
		X			
		X			
		X			
		X			
		X			
		X			
		X			X
	X	X			X
X	X	X			X
X	X	X	^	X	X
<b>Striped Bass</b>	<b>Bluefish</b>	<b>Sea Bass</b>	<b>Fluke</b>	<b>Tautog</b>	<b>Scup</b>

What has been swimming in L.I.S. since I've been chartering.  
 2003 -2013  
 (Things changed drastically in 2014)

	X				
	X				X
	X				X
	X				X
X	X				X
X	X				X
X	X		X		X
X	X		X	X	X
X	X		X	X	X
X	X	^	X	X	X
<b>Striped Bass</b>	<b>Bluefish</b>	<b>Sea Bass</b>	<b>Fluke</b>	<b>Tautog</b>	<b>Scup</b>

Thank you,  
 Capt. TJ Karbowski  
 Rock & Roll Charters  
 Clinton, CT  
 203.314.3765  
[www.rockandrollcharters.com](http://www.rockandrollcharters.com)

2017 REVIEW OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
FISHERY MANAGEMENT PLAN for the 2016 SCUP FISHERY  
**SCUP (*Stenotomus chrysops*)**



Prepared by:

Jessica Kuesel, ASMFC

Scup Plan Review Team

Kirby Rootes-Murdy, Chair

Julia Beaty, MAFMC

Justin Davis, CT

Emily Gilbert, NOAA

Todd Van Middlesworth, NC DENR

Tiffany Vidal, MA

Jessica Kuesel, ASMFC

October 2017





**David E. Pierce, Ph.D.**  
*Director*

# *Commonwealth of Massachusetts*

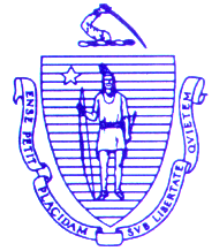
## **Division of Marine Fisheries**

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**Ronald Amidon**  
*Commissioner*

**Mary-Lee King**  
*Deputy Commissioner*

### **MEMORANDUM**

TO: Kirby Rootes-Murdy, ASMFC Scup FMP Coordinator

FROM: Nichola Meserve, MA Administrative Board Member (Proxy)

DATE: January 16, 2018

SUBJECT: Scup Minimum Mesh Size Requirements and MA Compliance

---

#### **Overview**

The 2016 FMP Review for Scup identifies Massachusetts' seasonal small-mesh squid fishery as being out of compliance with the plan's minimum mesh size and trigger for minimum mesh size requirements. MA DMF will implement these compliance criteria by the start of our 2018 squid fishery.

#### **Background**

The FMP establishes scup incidental possession limits for bottom trawl vessels using nets with mesh smaller than 5" diamond opening. These are currently 1,000 pounds during November 1–April 30 and 200 pounds during May 1–October 31.

The trawl net minimum mesh size throughout MA is 6.5" throughout the cod-end and 6" throughout the remainder of the net, except for our seasonal small mesh squid fishery, which is authorized a  $1\frac{7}{8}$ " mesh size during April 23–June 9 (or longer by Director's declaration; generally a week if at all). This squid fishery season overlaps with our commercial scup season, and we have no rule preventing vessels using small mesh for squid from taking scup at the directed fishery trip limits for trawl gear, which are in excess of the plan's incidental limits.

MA's noncompliance with the incidental limits was unintentional; moreover, it is unlikely to have impacted the resource's health. Few squid vessels could have capitalized on the higher limits in state waters (as most have held a federal permit as well). The directed squid fishery, restricted to state waters south of Cape Cod, would have occurred regardless of the scup limit; the higher limits simply converted the occasional large tow of scup bycatch from discards to landings. Discarding of undersized scup was likely limited by the seasonality of the squid fishery, which is specifically timed to avoid their (and other species') catch. Our larger than required trawl mesh during the rest of the year is likely to have compensated. The scup resource is rebuilt, with spawning stock biomass estimated to be more than twice the target level.

#### **Timeline**

MA DMF will implement the plan's incidental scup limits for our small mesh squid fishery in 2018. A public hearing and comment period is being planned for late February/early March to amend the Commonwealth's regulation. If, due to administrative review timelines, we are unable to change the

regulations prior to the start of our squid season (April 23), MA DMF has the ability to condition the permits of state-waters only squid participants to limit the amount of scup that can be landed.

Moving forward, MA DMF is interested to have the Monitoring Committee give a careful review of the potential to increase the scup incidental trip limits for undersized mesh—either in state waters only or in both state and federal waters. Given the rebuilt stock status and the underutilized commercial quotas, this rule is likely resulting in needless regulatory discards.

Enc: Proposed Regulatory Language

## Proposed Regulatory Language

### 322 CMR 4.00: FISHING AND SHELLFISH EQUIPMENT

#### 4.06: Use of Mobile Gear

##### (4) Trawl Net Mesh Minimum Size.

(a) Trawl Net Mesh Measurement. Minimum mesh size is measured by the inside stretch of the net mesh. The net mesh is measured by a wedge-shaped gauge having a taper of two centimeters in eight centimeters, inserted into the meshes under a pressure or pull of eight kilograms. The mesh size will be the average of measurements of any series of 20 consecutive meshes. The mesh in the cod end will be measured at least ten meshes from the lacings beginning at the after-end and running parallel to the long axis. Upon request, the Director may approve in writing the use of other mesh size gauges or methods.

(b) Minimum Trawl Net Mesh Size. Except as authorized at 322 CMR 4.08(2)(c), all vessels fishing with trawl gear within the waters under the jurisdiction of the Commonwealth shall only possess and fish with nets that have a minimum mesh size opening that measures at least 6½ inches throughout the cod-end and six inches throughout the remainder of net.

(c) Exempted Small Mesh Fisheries. To authorize commercial trawl fishermen to seasonally target valuable finfish species that cannot be caught in commercially viable quantities without the use of small mesh trawls, the following exemptions are authorized. While fishing in an exempted small mesh trawl fishery, a vessel shall not also possess nets that conform with the minimum mesh size at 322 CMR 4.08(2)(b)

1. Seasonal Small Mesh Squid Fishery. From April 23<sup>rd</sup> through June 9<sup>th</sup>, lawfully permitted vessels may fish small mesh trawls within the small mesh squid exempted area.

a. Vessels participating in this fishery must hold a CAP further endorsed for squid, issued in accordance with M.G.L. c. 130, § 80 and 322 CMR 7.01(4)(a): *Regulated Fishery*.

b. The seasonal mobile gear closures at 322 CMR 4.06(2)(h) and (i) apply.

c. No vessel that is in possession of small mesh trawls within the small mesh squid exempted area may possess, retain and land more than 100 pounds of winter flounder, yellowtail flounder, or summer flounder, in any combination.

**d. No vessel participating in this fishery may possess, retain or land more than 1,000 pounds of scup during April 23<sup>rd</sup> through April 30<sup>th</sup>, or more than 200 pounds of scup during May 1<sup>st</sup> through the close of the seasonal small mesh squid fishery, unless fishing with nets that have a minimum mesh size of 5.0-inch diamond mesh, applied throughout the codend for at least 75 continuous meshes forward of the terminus of the net, and all other nets are stowed and not available for immediate use.**

~~e.~~ Vessels participating in this fishery shall use trawls with a minimum mesh size opening of 1 7/8 inch diamond or square mesh applied throughout the cod end for at least 150 continuous meshes forward of the terminus of the net, or, for cod ends with less than 150 meshes, the minimum mesh size cod end shall be the minimum of 1/3 of the net measured from the terminus of the cod end of the head rope.

~~f.~~ Fishery Extension. The Director may extend the seasonal small mesh squid fishery if it is determined that continued fishing with small mesh will not result in large catches of small squid less than five inches mantle length, or juvenile scup, black sea bass or summer flounder.

## **2017 Review of the Atlantic States Marine Fisheries Commission Fishery Management Plan for Scup for the 2016 Fishing Year**

### **I. Status of the Fishery Management Plan**

States with a declared interest in the Scup FMP are Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, and North Carolina. The Commission's Summer Flounder, Scup, and Black Sea Bass Management Board serves as the species management board, and the Demersal Species Committee guides plan development for the MAFMC. The Summer Flounder, Scup, and Black Sea Bass Technical Committee addresses technical issues. Industry advice is solicited through the Scup and Black Sea Bass Advisory Panel, and annual review and monitoring is the responsibility of the Scup Plan Review Team.

Atlantic States Marine Fisheries Commission (ASMFC or Commission) management of scup was initiated as one component of a multi-species Fishery Management Plan (FMP) addressing summer flounder, scup and black sea bass. The Commission approved the FMP for scup in March 1996. Amendment 12 to the Summer Flounder, Scup, and Black Sea Bass FMP, which established revised overfishing definitions, identification and description of essential fish habitat, and defined the framework adjustment process, was approved by the Commission in October 1998.

The FMP included a seven-year plan for reducing fishing effort and restoring the stock. The primary concerns were excessive discarding of scup and near collapse of the stock. Management measures implemented in the first year of the plan (1996) included: dealer and vessel permitting and reporting, 9-inch commercial minimum size, 4-inch mesh restriction for vessels retaining over 4,000 pounds of scup, and a 7-inch recreational minimum size. The biological reference point to define overfishing when the plan was initially developed was  $F_{MAX}$ , or  $F=0.25$ . To allow flexibility in addressing unforeseen conditions in the fishery, the plan contained provisions that allow implementation of time and area closures. The plan also specified the option for changes in the recreational minimum size and bag limit, or implementation of a seasonal closure on an annual basis. The original FMP also implemented an annual coastwide Total Allowable Catch (TAC) limit, effective in 1997, from which an annual commercial quota and recreational harvest limit would be derived.

Addendum 1 to the Summer Flounder, Scup, and Black Sea Bass FMP established the quota management procedure for management and distribution of the annual coastwide commercial quota. Addendum 1 also details the state-by-state quota system for the summer period (May through October) that was implemented in 1997. Each state receives a share of the summer quota based on historical commercial landings from 1983-1992.

In June 1997, the Commonwealth of Massachusetts filed a lawsuit against the Secretary of Commerce stating that the historical data used to determine the quota shares underestimated the commercial landings of scup. Massachusetts also stated that the resulting quota share discriminated against Commonwealth of Massachusetts residents. On April 27, 1998, the U.S. District Court voided the state-by-state quota allocations for the summer quota period in the federal fishery management plan, and ordered the Secretary of Commerce to promulgate a

regulation that sets forth state-by-state quotas in compliance with the National Standards. The Summer Flounder, Scup, and Black Sea Bass Management Board developed three Emergency Rules to address the quota management during the summer quota period during 1999, 2000 and 2001.

Amendment 12 to the Summer Flounder, Scup and Black Sea Bass FMP established a biomass threshold for scup based on the maximum value of the 3-year moving average of the Northeast Fisheries Science Center spring bottom trawl survey index of spawning stock biomass. The Amendment stipulated that the scup stock was considered overfished when the spawning stock biomass index fell below this value. Amendment 12 also defined overfishing for scup to occur when the fishing mortality rate exceeded the threshold fishing mortality. Subsequent addenda modified the reference points.

In 2002, the Board developed Addendum V to the FMP in order to avoid the necessity of developing annual Emergency Rules for summer period quota management. Addendum V established state shares of the summer period quota based on historical commercial landings from 1983-1992, including additional landings from Massachusetts added to the National Marine Fisheries Service (NMFS) database in 2000. State shares implemented by this addendum will remain in place until the Board takes direct action to change them.

Another significant change to scup management occurred with the approval of Addendum VII in February 2002. This document established a state specific management program for the states of Massachusetts through New York for the 2002 recreational scup fishery based on the average landings (in number of fish) for 1998-2001.. Due to the extremely limited data available, the Board developed specific management measures for the states of New Jersey, Delaware, Maryland, Virginia, and North Carolina. The addendum had no application after 2002. The same addendum language was used verbatim to set management measures for the states of Massachusetts through New York for 2003 through Addendum IX.

Addendum XIX, approved in August 2007, broadened the descriptions of stock status determination criteria contained within the Summer Flounder, Scup, and Black Sea Bass FMP to allow for greater flexibility in those definitions, while maintaining objective and measurable criteria for identifying when stocks are overfished. It established acceptable categories of peer-review for stock status determination criteria. When these specific peer-review metrics are met and new or updated information is available, the new or revised stock status determination criteria may be incorporated by the Commission directly into the annual management measures for each species.

Addendum XX sets policies to reconcile quota overages to address minor inadvertent quota overages. It was approved in November 2009. It streamlines the quota transfers process and establishes clear policies and administrative protocols to guide the allocation of transfers from states with underages to states with overages. It also allows for quota transfers to reconcile quota overages after the year's end.

## II. Status of the Stock

The most recent stock assessment update for scup took place in 2017. Based on information through 2016, the scup stock was not overfished or experiencing overfishing relative to the reference points defined in the 2015 SAW 60 benchmark assessment. The stock assessment model for scup changed in 2008 from a simple index-based model to a complex statistical catch at age model. The model now incorporates a broader range of fishery and survey data than was used previously.

Since 1984, recruitment (i.e., the number of age 0 scup) estimates are influenced mainly by the fishery and survey catches-at-age, and averaged 121 million fish during 1984-2016. The 1999, 2006, and 2015 year classes are estimated to be the largest of the time series, at 222, 222, and 252 million age 0 fish. Below average recruitment occurred in 2012-2014 and in 2016 (65 million fish).

The fishing mortality reference point is  $F_{MSY} = F_{40\%} = 0.220$ .  $F_{40\%}$  is the rate of fishing that will result in 40% of the spawning potential of an unfished stock. The spawning stock biomass (SSB) target is  $SSB_{40\%} = 87,302$  mt or 192.47 million pounds. The 2017 stock assessment update indicates the  $F$  in 2016 was 0.139 and SSB was 397 million pounds, therefore overfishing is not occurring and the stock is rebuilt.

## III. Status of the Fishery

Commercial scup landings, which had declined by over 33% to 13.1 million pounds in 1988 from peak landings (approximately 49 million lbs) in 1960, increased to 15.6 million pounds in 1991, then steadily dropped to the lowest value in the time series, 2.7 million pounds in 2000. Since 2001, commercial landings have continued to increase nearly every year to about 17.87 million pounds in 2013. From 2011-2015 commercial landings varied, ranging from 14.88 million lbs in 2012, to 17.87 million pounds in 2013. In 2016, commercial landings were 15.74 million lbs, about 77% of the commercial quota (Table 3). Since 1979 approximately 80% of the commercial landings have been landed in Rhode Island (38%), New Jersey (26%), and New York (16%). Otter trawl is the principal gear, accounting for 65%-90% of commercial landings since 1979.

The recreational fishery for scup is significant, with the greatest proportion of the catches taken in states of Massachusetts through New York. Since 1981, recreational harvest has averaged 32% of total landings (commercial and recreational). From 2005 to 2015, recreational harvest has ranged from 2.69 million lbs in 2005 to 5.11 million lbs in 2013. In 2016, recreational harvest was 4.26 million lbs, about 70% of the recreational harvest limit (Table 4).

## IV. Status of Assessment Advice

The 2015 Benchmark Stock Assessment indicated that while the scup biomass is over 200% of the biomass target, the trend moving forward is likely a decreased from a recent year's peak. As such, the Board and Council moved to decrease commercial quotas and recreational harvest limits from 2015 levels in 2016 and 2017 based on the biomass projections outlined in the stock assessment. The 2017 Stock Assessment Update indicated the biomass still remains 200% above

the biomass target and resource is not experiencing overfishing. Quotas were increased for 2018 and 2019. The Board and Council originally set these quotas based on the 2015 numbers and will update them based on the 2017 update.

## **V. Status of Research and Monitoring**

Commercial landings data are collected by the NMFS Vessel Trip Report system and by state reporting systems. The NEFSC sea sampling program collects commercial discard information. Biological samples (age, length) from the commercial fishery are collected through the NEFSC weighout system and by the state of North Carolina. Recreational landings and discard information is obtained through the Marine Recreational Information Program. The Commonwealth of Massachusetts collected length frequency information for the recreational fishery in 2001 as part of a federally funded effort to monitor the recreational and commercial directed fisheries. One non-directed fishery assumed to have substantial scup bycatch was also monitored. This monitoring effort decreased substantially in 2002 as the study received funding for one year. Fishery independent abundance indices are available from surveys conducted by the NEFSC, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, and the Virginia Institute of Marine Science. All surveys, with the exception of Delaware's, are included in the species stock assessment.

## **VI. Management Measures and Developing Issues**

Addendum 1 to the Scup FMP specifies the commercial quota management scheme. The annual coastwide quota is divided among three periods. The Winter I period is January through April, the summer period is May through October, and November and December make up Winter II. During the winter periods, the quota is coastwide and is limited by federal trip limits. The summer allocation is divided into state shares. There is no federal possession limit during the summer period; however, various state possession limits are in effect. When a winter period allocation is landed, the states and NMFS must prohibit landings. When a state lands its summer allocation it is expected to close its fishery. The quota, as well as accompanying trip limits, will be set annually. [Note: The Federal FMP currently contains a coastwide commercial quota during the summer period due to the court decision described in Section I]. The Board expressed interest in exploring alternative quota programs for scup. In December 2015 the Board recommended that the Technical Committee develop an analysis to support future considerations related to possibly changing the length of each of the three quota periods. Addendum XXIX was initiated in fall 2016 and was approved by the Board in May 2017. The Addendum shortens the length of the commercial scup summer period and extends the length of the winter II period.

## Scup FMP Compliance Criteria:

### **COMMERCIAL FISHERY for 2016**

*The following management measures may change annually.*

Minimum size of possession: 9" Total Length

Minimum mesh: Otter trawls must have a minimum mesh size of 5" for the first 75 meshes from the terminus of the net and a minimum mesh size of 5" throughout the net for codends constructed with fewer than 75 meshes.

Threshold to Trigger Minimum Mesh Requirements: Trawl vessels are subject to the minimum mesh requirements if possessing 1,000 pounds or more of scup from November 1 through April 30, or 200 pounds or more of scup from May 1 through October 31.\*\*

Maximum roller rig trawl roller diameter: 18"

Pot and trap escape vents: 3.1" round, 2.25" square

Pot and trap degradable fastener provisions: a) untreated hemp, jute, or cotton string 3/16" (4.8 mm) or smaller; b) magnesium alloy timed float releases or fasteners; c) ungalvanized, uncoated iron wire of 0.094" (2.4mm) or smaller

Commercial quota: 20.47 million pounds (adjusted for overages)

ASMFC Summer Quota: 7,972,176 lbs (State by State Shares in Table 1)

Winter I and II Quotas and landing limits: Winter I = 9,232,987 lbs; 50,000 lb trip limit, 1,000 lbs trip limits when the quota reaches 80%; Winter II = 3,262,554 lbs, 12,000 pounds initial possession limits; if the winter I quota is not reached, the winter II possession limit increases by 1,500 pounds for every 500,000 pounds of quota not caught during winter I

\*\*Starting in 2016, the threshold to trigger minimum mesh requirements increased from 500 pounds to 1,000 pounds.

*The following required measures are not subject to annual adjustment:*

Vessel and dealer permitting requirements: States are required to implement a permit for fishermen fishing exclusively in state waters, and for dealers purchasing exclusively from such fishermen. In addition, states are expected to recognize federal permits in state waters, and are encouraged to establish a moratorium on entry into the fishery.

Vessel and dealer reporting requirements: States are required to implement reporting requirements for state permitted vessels and dealers and to report landings from state waters to NMFS.

Scup pot or trap definition: A scup pot or trap will be defined by the state regulations that apply to the vessels principal port of landing.

Quota management requirements:

**Winter I and II:** States are required to implement landing limits as specified annually. States are required to notify state and federal permit holders of initial period landing limits, in-period adjustments, and closures. States are required to prohibit fishing for, and landing of, scup when a period quota has been landed, based on projections by NMFS. States must report landings from state waters to NMFS for counting toward the quota



**Summer:** States are required to implement a plan of trip limits or other measures to manage their summer share of the scup quota. States are required to prohibit fishing for, and landing of, scup when their quota share is landed. States may transfer or combine quota shares. States must report all landings from state waters to NMFS for counting toward the state shares.

### **RECREATIONAL FISHERY for 2016**

Addendum IX (2003) established a state-specific management program for Massachusetts through New York (inclusive), and specific management measures for the states of New Jersey, Delaware, Maryland, Virginia, and North Carolina. The states have continued this approach since 2004.

### ***The following measures may change annually: 2016 Recreational Measures***

2016 Minimum size, possession limits and seasonal closure: Table 5

2016 Recreational Harvest Limit: 6.09 million pounds

2017 Minimum size, possession limits and seasonal closure: Table 5

### **OTHER MEASURES**

Reporting: States are required to submit an annual compliance report to the Chair of the ASMFC Scup Plan Review Team by June 1 of each year. This report should detail the state's management program for the current year and establish proof of compliance with all mandatory management measures. It should include landings information from the previous year, and the results of any monitoring or research programs.

De minimis: States having commercial landings during the summer period that are less than 0.1% of the summer period quota are eligible for *de minimis* consideration. States desiring *de minimis* classification must make a formal request in writing through the Plan Review Team for review and consideration by the Scup Management Board.

*This summary of compliance criteria is intended to serve as a quick reference guide. It in no way alters or supersedes compliance criteria as contained in the Scup FMP and any Amendments thereto.*

### **Compliance Issues**

The PRT found the following compliance issues. Massachusetts did not maintain the 5" minimum diamond mesh size or the threshold to trigger minimum mesh requirements (1,000 lbs 11/1 – 4/30; (mid-year increase to 1,000 lbs effective Nov/Dec 2016); 200 lbs from 5/1 – 10/31), allowing squid mesh (1 7/8") vessels to retain directed fishery possession limits for scup from April 23 – June 9 (or longer by Director's declaration). Rhode Island allowed a 4.5" minimum mesh size for the entire net of 4.5" diamond mesh in codend (for large trawl nets), which was below the 5" minimum required. Rhode Island also allowed 2.5" circular escape vents, 2" square escape vents, or 1.375" X 5.75" rectangular escape vents for pots/traps, which

were smaller than the required minimum of 3.1” round or 2.25” square vents. See state compliance reports for more information.

**De Minimis**

The state of Delaware requests *de minimis* status. The PRT notes Delaware meets the *de minimis* requirements.

**VII. State Compliance with Required Measures**

Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, and North Carolina are required to comply with the provisions of the Scup FMP. The PRT found Massachusetts to be out of compliance with the minimum mesh size and trigger for minimum mesh size requirements. The PRT also found Rhode Island to be out of compliance with the minimum mesh and escape vent size requirements. All other states implemented regulations in compliance with the requirements approved by the Board.

**Scup FMP Compliance Schedule**

**Commercial Fishery**

<b>Management Measures</b>	
Ability to implement and enforce period landing limits	1/1/97
Ability to notify permit holders of landing limits and closures 1/1/97	5/1/97
Ability to close the summer fishery once the state share is harvested	5/1/97
Ability to close the winter fisheries once the period quota is harvested	5/1/97
9” total length minimum size limit	6/30/96
Minimum mesh size of 5” diamond mesh throughout codend	1/1/05
Pot and trap escape vents (min 3.1” square/rectangular; each side at least 2.25” in length), degradable fasteners	6/30/96
Roller diameter restriction	6/30/96
Vessel permit and reporting requirements, state	1/1/97
Dealer permit and reporting requirements, state	1/1/97

**Recreational Fishery**

<b>Management Measures</b>	
Size limit	6/30/96
Possession limit	6/30/96

**General**

States submit annual monitoring and compliance report	6/1 annually
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**Annual Specifications**

<b>Commercial</b>	
Winter I Landing Limits	11/1/05
Winter II Landing Limits	11/1/05
	1/1/16
	11/1/16

**Recreational**

Massachusetts– New York (inclusive)	
State specific minimum size, possession limit and season	3/16
New Jersey – North Carolina (inclusive)	
Federal coastwide minimum size, possession limit and season	12/15

**Table 1. 2016. State by State Quota (Summer Period)**

<b>State</b>	<b>Share</b>	<b>2016 ASMFC Final Quota</b>
ME	0.00121	9,646
MA	0.21585	1,720,842
RI	0.56189	4,479,580
CT	0.03154	251,422
NY	0.15823	1,261,471
NJ	0.02916	232,504
MD	0.00012	949
VA	0.00165	13,154
NC	0.00025	1,985
Total	0.99991	7,971,553

**Table 2. Summary of scup management measures, 2006-2016.**

<b>Harvest Limits and Measures</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>ABC (m lbs)</b>	-	-	-	-	-	-	40.88	38.71	35.99	33.77	31.11
<b>TAC (m lbs)</b>	19.79	13.97	9.9	15.54	17.09	31.92	-	-	-	-	-
<b>Commercial ACL (m lbs)</b>	-	-	-	-	-	-	31.89	30.19	28.07	26.35	24.26
<b>Commercial quota-adjusted (m lbs)*</b>	11.93	8.9	5.24	8.37	10.68	20.36	27.91	23.53	21.95	21.23	20.47
<b>Commercial landing (m lbs)</b>	9.00	9.24	5.22	8.20	10.73	15.03	14.88	17.87	15.93	15.85	15.76
<b>Recreational ABC (m lbs)</b>	-	-	-	-	-	-	8.99	8.52	7.92	7.43	6.84
<b>Recreational harvest limit-adjusted (m lbs)*</b>	4.15	2.74	1.83	2.59	3.01	5.74	7.55	7.55	7.03	6.8	6.09
<b>Recreational landing</b>	3.72	4.56	3.79	3.23	5.97	3.67	4.17	5.11	4.12	4.61	4.26
<b>Commercial fish size (in)</b>	9	9	9	9	9	9	9	9	9	9	9
<b>Min. mesh size (in, diamond)</b>	5	5	5	5	5	5	5	5	5	5	5
<b>Mesh threshold</b>	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	1,000/200

\*2006-2014 commercial quotas and recreational harvest limits were adjusted for the Research Set Aside (RSA) program. The RSA program was suspended for 2015 and beyond.

**Table 3. Scup commercial landings by state 2006-2016 in pounds.**

Source: ACCSP. 2015-2016. Commercial Landings Summaries (Dealer Reports) - Confidential; generated by J. Kuesel; using ACCSP Data Warehouse, Arlington, VA. & State Compliance Reports (October 2017)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016**
MA	1,088,148	1,104,316	527,325	718,751	1,030,688	1,243,810	2,005,268	1,094,975	1,185,816	1,380,262	1,535,947
RI	3,671,250	3,892,671	2,133,001	1,785,994	4,298,595	6,335,391	6,309,321	4,689,540	6,932,462	6,793,853	6,815,227
CT	297,912	255,884	283,101	203,607	323,757	644,030	905,060	1,194,949	811,106	983,041	946,182
NY	2,305,161	2,280,112	1,203,661	1,845,908	2,689,443	3,542,538	4,306,621	4,407,231	3,190,433	3,174,868	3,505,824
NJ	1,392,868	1,575,144	773,829	1,528,545	1,550,249	1,966,479	978,531	2,033,083	1,925,591	2,981,572	2,332,900
DE	0	3	0	0	0	9	1	4	4	8	52
MD	--	--	--	9,000	27,183	54,229	8,263	--	230,104	25,892	53,535
VA	80,292	22,579	95,939	211,576	371,376	620,480	339,868	913,113	660,324	509,334	441,257
NC	139,420	66,856	205,703	244,337	102,745	308,907	4,098	28,394	159,930	229,696	111,901
<b>Total</b>	<b>9,065,404</b>	<b>9,259,713</b>	<b>5,222,559</b>	<b>6,547,718</b>	<b>10,394,036</b>	<b>14,715,873</b>	<b>14,857,031</b>	<b>14,361,289</b>	<b>15,095,770</b>	<b>16,078,526</b>	<b>15,742,825</b>

\*\*2016 Landings are still preliminary

**Table 4. Scup recreational landings, 2006-2016, by state in weight.**

Source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division. September 2017.

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
MA	218,996	75,860	150,031	874,952	1,023,248	836,156	1,795,634	1,850,909	1,634,104	1,286,537	1,051,147
RI	470,286	353,450	632,839	139,576	398,178	567,697	497,505	816,837	975,812	591,693	606,528
CT	107,479	108,528	115,821	359,845	1,346,631	1,194,680	921,010	2,126,257	561,182	497,495	843,267
NY	1,677,998	1,596,391	1,450,861	1,460,314	1,990,339	714,789	592,238	978,444	1,132,448	2,211,709	1,533,402
NJ	241,567	86,073	72,697	141,861	610,660	42,223	113,332	100,419	45,847	29,501	210,727
DE	319	2,365	1,338	821	0	40	86	0	35	589	1
MD	58,386	157,360	89,729	36	11	7	0	0	0	204	126*
VA	0	586	3,920	527	5,284	10,413	1,425	1,238	0	1,846	14,157*
NC	0	0	0	0	0	27	148	0	769	87	0
<b>Total</b>	<b>2,775,031</b>	<b>2,380,613</b>	<b>2,517,236</b>	<b>2,977,932</b>	<b>5,374,351</b>	<b>3,366,032</b>	<b>3,921,378</b>	<b>5,874,104</b>	<b>4,350,197</b>	<b>4,619,661</b>	<b>4,259,355</b>

\*State estimates for Maryland and Virginia had PSE>50.

**Table 5. 2016 and 2017 State Scup Recreational Measures**

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts For Hire	10	45 fish from May 1- June 30; 30 fish from July 1- Dec 31	May 1- December 31
Private Angler	10	30 fish; private vessels with 6 or more persons aboard are prohibited from possessing more than 150 scup per day	May 1- December 31
Rhode Island For Hire	10	30 fish from May 1-Aug 31 and Nov 1-Dec 31; 45 fish from Sept 1-Oct 31	May 1- December 31
Private Angler	10"; and 9" or greater for shore mode at 3 designated sites	30 fish	May 1- December 31
Connecticut For Hire	10	30 fish from May 1-Aug 31 and Nov 1-Dec 31; 45 fish from Sept 1-Oct 31	May 1- December 31
Private Angler	10; and 9" for shore mode at 46 designated sites	30 fish	May 1- December 31
New York For Hire	10	30 fish from May 1-Aug 31 and Nov 1-Dec 31; 45 fish from Sept 1-Oct 31	May 1- December 31
Private Angler	10	30 fish	May 1- December 31
New Jersey	9	50 fish	Jan 1-Feb 28 and July 1 – December 31
Delaware	8	50 fish	All Year
Maryland	8	50 fish	All Year
Virginia	8	30 fish	All Year
North Carolina	8	50 fish	All Year



**Table 6. Scup Landings by period.**

Year	Period	Commercial Quota	Trip Limits	Landings (lbs)	Date Closed	% of Quota Landed
2005	Winter I	5,518,367	15,000/1,000	3,684,768	--	66.8
	Summer	4,764,806	--	4,001,662	--	89.5
	Winter II	1,987,718	1,500	1,380,444	--	74.6
2006	Winter I	3,554,991	30,000/1,000*	3,626,237	--	102
	Summer	4,647,569	--	3,219,929	--	69.3
	Winter II	3,729,581	2,000/1,000	2,115,323	--	56.7
2007	Winter I	4,012,895	30,000/1,000*	3,400,934	--	84.8
	Summer	3,464,914	--	4,254,987	21-Sep	122.8
	Winter II	1,417,991	2,000/1,000	1,590,747	--	112.2
2008	Winter I	2,291,699	30,000/1,000*	2,356,716	--	102.8
	Summer	1,437,558	--	1,935,074	16-Jul	134.6
	Winter II	940,948	2,000/1,000	892,318	--	94.8
2009	Winter I	3,777,443	30,000/1,000*	3,774,583	--	99.9
	Summer	2,930,733	--	3,072,340	--	104.8
	Winter II	1,334,791	2,000/1,000	1,356,961	--	101.7
2010	Winter I	4,964,716	30,000/1,000*	4,740,681	--	95.4
	Summer	4,286,759	--	4,175,206	--	97.4
	Winter II	1,754,325	2,000/1,000	1,482,669	--	84.5
2011	Winter I	6,897,648	30,000/1,000*	5,648,867	--	81.9
	Summer	7,930,504	--	6,349,749	--	80.1
	Winter II	3,245,500	2,000/1,000	2,556,214	--	78.8
2012	Winter I	12,589,558	50,000/1,000*	5,190,370	--	41.2
	Summer	10,870,390	--	6,326,576	--	58.2
	Winter II	11,635,321	8,000	2,484,470	--	21.4
2013	Winter I	10,613,157	50,000/1,000*	7,431,296	--	70.0
	Summer	9,163,877	--	7,684,995	--	83.9
	Winter II	6,932,998	8,000	2,324,250	--	33.5
2014	Winter I	9,900,000	50,000/1,000*	5,833,858	--	58.9
	Summer	8,548,364	--	7,146,612	--	83.6
	Winter II	7,232,471	12,000	2,318,732	--	32.1
2015	Winter I	9,578,008	50,000/1,000*	6,681,081	--	69.8
	Summer	8,269,322	--	7,703,455	--	93.1
	Winter II	5,468,726	12,000	1,904,529	--	34.8
2016	Winter I	9,232,987	50,000/1,000*	5,873,769	--	63.6
	Summer	7,972,176	--	7,063,389	--	88.6
	Winter II	3,262,554	18,000	2,502,146	--	76.7

\*The first number indicates the trip limit until 80% of the quota is caught; the second number is the trip limit after that threshold is exceeded.