Atlantic States Marine Fisheries Commission

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Joseph Cimino (NJ), Chair *Dan McKiernan (MA), Vice-Chair* *Robert E. Beal, Executive Director*

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

MEMORANDUM

July 24, 2024

TO: Commissioners; Proxies; American Lobster Management Board; Atlantic Herring Management Board; Atlantic Menhaden Management Board; Atlantic Striped Bass Management Board; Atlantic Sturgeon Management Board; Coastal Pelagics Management Board; Executive Committee; ISFMP Policy Board; Sciaenids Management Board; Shad and River Herring Management Board; and Spiny Dogfish Management Board

FROM: Robert E. Beal REB
Executive Director

RE: ASMFC Summer Meeting: August 6 – 8, 2024 (TA 24-062)

The Atlantic States Marine Fisheries Commission's Summer Meeting will be August 6 – 8, 2024 at **The Westin Crystal City**. This will be a hybrid meeting (both in-person and remote) to allow for participation by Commissioners and interested stakeholders. The room block is now closed; if you need assistance reserving a room, please contact Lisa Carty at lcarty@asmfc.org . The Summer Meeting final agenda and meeting materials are available at http://www.asmfc.org/home/2024-summer-meeting.

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.

Webinar Information

Meeting proceedings will be broadcast daily via webinar beginning Tuesday, August 6 at 9 AM and continuing daily until the conclusion of the meeting (expected to be 10:30 AM on Thursday, August 8). To register for the webinar, please go to:
https://attendee.gotowebinar.com/register/7224724220521378647 (Webinar ID 325-845-475)

If you are joining the webinar but will not be using voice over internet protocol (VoIP), you can may also call in at +1.415.655.0052, access code 565-335-899. A PIN will be provided to you after joining the webinar. For those who will not be joining the webinar but would like to listen in to the audio portion only, press the # key when asked for a PIN.

Each day, the webinar will begin 15 minutes prior to the start of the first meeting so that people can troubleshoot any connectivity or audio issues they may encounter. If you are having issues with the webinar (connecting to or audio related issues), please contact Chris Jacobs at 703.842.0790.

Meeting Process

Board chairs will ask both in-person and virtual board members if they wish to speak. In-person members can simply raise their hands at the meeting without logging on to the webinar, while virtual members will raise their hands on the webinar. The chair will work with staff to compile the list of speakers, balancing the flow of questions/comments between in-person and virtual attendees. The same process will be used for public comment. Depending upon the number of commenters, the board chair will decide how to allocate the available time on the agenda (typically 10 minutes) to the number of people who want to speak.

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

Enclosed: Final Agenda, revised TA 24-062, and Travel Reimbursement Guidelines

Atlantic States Marine Fisheries Commission

Summer Meeting

August 6 – 8, 2024

The Westin Crystal City

Arlington, Virginia

Public Comment Guidelines

To provide 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 opportunities to the public to bring matters of concern to the board's attention at the start of each board meeting. Board chairs will ask members of the public to raise their hands to let the chair know they would like to speak. Depending upon the number of commenters, the board chair will decide 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 comments 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 comments 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 three weeks prior to the start of a meeting week (July 15) will be included in the briefing materials.
2. Comments received by 5 PM on Tuesday, July 30 will be included in supplemental materials.
3. Comments received by 10 AM on Friday, August 2 will be distributed electronically to Commissioners/Board members prior to the meeting.

The submitted comments must clearly indicate the commenter's expectation from the ASMFC staff regarding distribution. Additionally, if submitting public comment in a video format, the video needs to be a URL link. As with other public comment, it will be accepted via mail 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, August 6

9 – 9:45 a.m. **Atlantic Herring Management Board**

Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey
Other Members: NEFMC, NMFS
Chair: Ware
Other Participants: Brown, Cournane, Deroba, Zobel
Staff: Franke

1. Welcome/Call to Order *(M. Ware)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from October 2023
3. Public Comment
4. Review 2024 Atlantic Herring Management Track Assessment *(J. Deroba)*
5. Consider Approval of Fishery Management Plan Review and State Compliance for the 2023 Fishing Year *(E. Franke)* **Action**
6. Update from the New England Fishery Management Council on Council Activity *(J. Cournane)*
7. Other Business/Adjourn

10:00 – 11:00 a.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
Chair: Clark
Other Participants: Craig, Corbin, Rattner, Ziolkowski
Staff: Boyle

1. Welcome/Call to Order (*J. Clark*)
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from April 2024
3. Public Comment
4. Review Report from US Geological Survey on Osprey Data in Chesapeake Bay *(D. Ziolkowski, Jr., B. Rattner)*
5. Progress Update on 2025 Ecological Reference Point Benchmark Stock Assessment *(K. Drew)*
6. Discuss Possible Chesapeake Bay Management (*L. Fegley*) **Possible Action**
7. Other Business/Adjourn

11:15 a.m. – 12:15 p.m. **Spiny Dogfish Management Board**

Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina
Other Members: NMFS
Chair: Geer
Other Participants: Baker, Newlin
Staff: Boyle

1. Welcome/Call to Order (*P. Geer*)
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2024
3. Public Comment
4. Review Report on State Impacts of New England and Mid-Atlantic Fishery Management Councils' Actions to Reduce Sturgeon Bycatch *(J. Boyle)*
   - Consider Complementary Action in State Waters **Possible Action**
5. Other Business/Adjourn

12:15 – 1:00 p.m. **Lunch Provided for Commissioners and Proxies**

1:00 – 2:30 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: Ware
Other Participants: Grabowski, Mercer, VanDrunen
Staff: Franke

1. Welcome/Call to Order *(M. Ware)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2024
3. Public Comment
4. Consider Approval of Fishery Management Plan Review and State Compliance for the 2023 Fishing Year *(E. Franke)* **Action**
5. Consider Initial Recommendations from Work Group on Recreational Release Mortality *(C. Batsavage)* **Action**
6. Progress Update and Board Guidance on 2024 Stock Assessment Update
   - Timeline and Progress Overview *(K. Drew)*
   - Provide Guidance to the Technical Committee for Management Options to Consider if the Assessment Indicates Reduction is Needed for Rebuilding
7. Update on 2024 Winter Striped Bass Tagging Cruise *(S. VanDrunen)*

8. Review and Populate Advisory Panel Membership *(T. Berger)* **Action**
9. Other Business/Adjourn

2:45 – 5:30 p.m. **American Lobster Management Board**

Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia
Other Members: NMFS, NEFMC
Chair: Keliher
Other Participants: Beal, Lindsay
Staff: Starks

1. Welcome/Call to Order *(P. Keliher)*
2. Board Consent
    - Approval of Agenda
    - Approval of Proceedings from April 2024
3. Public Comment
4. Progress Update on Benchmark Stock Assessment for American Lobster *(J. Kipp)*
5. Plan Development Team Report on Conservation Measures for Lobster Conservation Management Areas 2 and 3 *(C. Starks)*
    - Report from Lobster Conservation Management Team 3
6. Report on Colby College Economic Impact Analysis of a Lobster Gauge Increase *(A. Lindsay)*
7. Consider Addendum XXX on the Mitchell Provision for Final Approval **Final Action**
    - Review Options and Public Comment Summary *(C. Starks)*
    - Consider Final Approval of Addendum XXX
8. Review Discussions with Canada on Complementary Management Measures *(P. Keliher)*
9. Vessel Tracking Workgroup Report on the 24/7 Tracking Requirement of Addendum XXIX *(C. Starks)*
10. Other Business/Adjourn

<u>Wednesday, August 7</u>

8 – 10 a.m. **Executive Committee**

Breakfast will be available at 7:30 a.m.

(A portion of this meeting may be closed session for Committee members and Commissioners only)
Members: Abbott, Burgess, Cimino, Clark, Davis, Dyer, Fegley, Gary, Green, Haymans, Keliher, Kuhn, McKiernan, McNamee, Miller, Patterson, Rawls
Chair: Cimino
Staff: Leach

1. Welcome/Call to Order *(J. Cimino)*
2. Board Consent
    - Approval of Agenda
    - Approval of Meeting Summary from May 2024
3. Public Comment

4. Legislative Update
   - Discuss Commission Position on H.R. 8705, *Fisheries Data Modernization and Accuracy Act of 2024*
5. Future Annual Meetings Update
6. Other Business/Adjourn

10:15 – 11:15 a.m. **Atlantic Sturgeon 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: DC, NMFS, PRFC, USFWS
Chair: Self
Other Participants: Gadomski, Higgs
Staff: Boyle

1. Welcome/Call to Order (*R. Self*)
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from August 2018
3. Public Comment
4. Review 2024 Atlantic Sturgeon Stock Assessment Update *(A. Higgs)*
5. Elect Vice-Chair
6. Other Business/Adjourn

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

Member States: New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Other Members: NMFS, PRFC
Chair: Haymans
Other Participants: Franco, Rickabaugh, Rogers
Staff: Bauer

1. Welcome/Call to Order *(D. Haymans)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from April 2024
3. Public Comment
4. Review 2024 Traffic Light Analyses for Spot and Atlantic Croaker *(D. Franco/H. Rickabaugh)*
   Possible Action
   - Technical Committee Recommendations
5. Consider Red Drum and Atlantic Croaker Fishery Management Plan Reviews and State Compliance for the 2023 Fishing Year (*T. Bauer*) **Action**
6. Progress Update on Red Drum, Atlantic Croaker, and Spot Benchmark Stock Assessments (*J. Kipp*)
7. Other Business/Adjourn

12:30 – 1:30 p.m. **Lunch on Your Own**

1:30 – 4 p.m. **Coastal Pelagics Management Board**

Member States: Rhode Island, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Other Members: NMFS, PRFC, SAFMC
Chair: Woodward
Other Participants: Freeman, Giuliano, Pearce
Staff: Franke

1. Welcome/Call to Order *(S. Woodward)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2024
3. Public Comment
4. Consider Approval of Atlantic Cobia Fishery Management Plan Review and State Compliance for the 2023 Fishing Year *(E. Franke)* **Action**
5. Consider Atlantic Cobia Addendum II on Recreational Allocation, Harvest Target Evaluation, and Measures Setting for Final Approval **Final Action**
   - Review Options and Public Comment Summary *(E. Franke)*
   - Advisory Panel Report *(E. Franke)*
   - Consider Final Approval of Addendum II
6. Update from South Atlantic Fishery Management Council on Mackerel Port Meetings *(J. Carmichael)*
7. Other Business/Adjourn

4:15 – 5:30 p.m. **Shad and River Herring 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: DC, NMFS, PRFC, USFWS
Chair: Fegley
Other Participants: Conroy, Eakin, Jordaan, Sabo
Staff: Boyle

1. Welcome/Call to Order (*L. Fegley*)
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from October 2023
3. Public Comment
4. Consider 2024 River Herring Benchmark Stock Assessment **Action**
   - Presentation of Stock Assessment Report *(K. Drew; M. Conroy)*
   - Presentation of Peer Review Panel Report *(A. Jordaan)*
   - Consider Acceptance of Benchmark Stock Assessment and Peer Review Report for Management Use
   - Consider Management Response, if necessary
5. Other Business/Adjourn

Thursday, August 8

8:30 – 10 a.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
Chair: Cimino
Staff: Kerns

1. Welcome/Call to Order *(J. Cimino)*
2. Board Consent *(J. Cimino)*
   - Approval of Agenda
   - Approval of Proceedings from May 2024
3. Public Comment
4. Executive Committee Report (*J. Cimino*)
5. Update on American Eel Convention on International Trade of Endangered Species Activity
6. Discuss H.R. 8705, *Fisheries Data Modernization and Accuracy Act of 2024* (*R. Beal*) **Possible Action**
7. Presentation of National Fish and Wildlife Foundation Electronic Monitoring and Reporting (*W. Goldsmith*)
8. Committee Reports
   - Habitat Committee (*S. Kaalstad*) **Action**
   - Atlantic Coastal Fisheries Habitat Partnership (*S. Kaalstad*)
   - Assessment Science Committee (*J. Patel*) **Action**
9. Review Noncompliance Findings, if necessary **Action**
10. Other Business/Adjourn

10 – 10:30 a.m. **Commission 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: Cimino
Staff: Beal

1. Welcome/Call to Order *(J. Cimino)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from January 2024
3. Consider Noncompliance Recommendations, if necessary **Final Action**
4. Other Business/Adjourn

Atlantic States Marine Fisheries Commission

Atlantic Herring Management Board

August 6, 2024
9:00 – 9:45 a.m.

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. Ware)*	9:00 a.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from October 2023	9:00 a.m.
3.	Public Comment	9:05 a.m.
4.	Review 2024 Atlantic Herring Management Track Assessment *(J. Deroba)*	9:15 a.m.
5.	Consider Approval of Fishery Management Plan Review and State Compliance for the 2023 Fishing Year *(E. Franke)* **Action**	9:30 a.m.
6.	Update from the New England Fishery Management Council on Council Activity *(J. Cournane)*	9:40 a.m.
7.	Other Business/Adjourn	9:45 a.m.

The meeting will be held at The Westin Crystal City (1800 Richmond Highway, Arlington, VA; 703.486.1111) and via webinar; click here for details.

MEETING OVERVIEW

Atlantic Herring Management Board
August 6, 2024
9:00 – 9:45 a.m.

Chair: Megan Ware Assumed Chairmanship: 08/22	Technical Committee Chair: Vacant	Law Enforcement Committee Representative: Delayne Brown (NH)
Vice Chair: Doug Grout	Advisory Panel Chair: Vacant	Previous Board Meeting: October 16, 2023
Voting Members: ME, NH, MA, RI, CT, NY, NJ, NMFS, NEFMC (9 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from October 2023

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. 2024 Atlantic Herring Management Track Assessment (9:15-9:30 a.m.)

Background

- The 2024 Management Track Assessment was completed by the NOAA Northeast Fisheries Science Center in July 2024 **(Briefing Materials)**.
- The New England Fishery Management Council's Scientific and Statistical Committee (SSC) is scheduled to meet July 30-31 to develop recommendations for 2025-2027 fishery specifications, which will be considered at the NEFMC September meeting.

Presentations

- Overview of management track assessment by J. Deroba.

5. Fishery Management Plan Review (9:30-9:40 a.m.) Action

Background

- State Compliance Reports were due on February 1, 2024.
- The Plan Review Team reviewed each state report and compiled the annual FMP Review **(Briefing Materials)**.

Presentations

- Overview of the FMP Review Report by E. Franke.

Board action for consideration at this meeting

- Accept 2024 FMP Review Report for the 2023 Fishing Year and State Compliance Reports.

6. Update from New England Fishery Management Council (9:40-9:45 a.m.)

Background

- Update on New England Fishery Management Council (NEFMC) activity on Atlantic herring **(Briefing Materials)**.

Presentations

- NEFMC update by J. Cournane.

7. Other Business/Adjourn

Atlantic Herring Technical Committee Task List

Activity Level: Medium

Committee Overlap Score: Medium

Committee Task List

While there are no Board tasks for the TC at present, there are several annual activities in which TC members participate, both through the Commission and NEFMC.

- TC and NEFMC PDT jointly prepare OFL and ABC recommendations for 2025-2027
- Participation on 2025 Research Track Working Group
- Participation on NEFMC PDT
- Summer/fall collection of spawning samples per the spawning closure protocol
- Annual state compliance reports are due February 1

TC Members

Matt Cieri (ME DMR), Robert Atwood (NHFG), Micah Dean (MA DMF), JA Macfarlan (RI DEM), Kurt Gottschall (CT DMF), Rich Pendleton (NY DEC), Conor Davis (NJ DEP), Jamie Cournane (NEFMC), Jonathan Deroba (NOAA NEFSC), Carrie Nordeen (NOAA)

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

ATLANTIC HERRING MANAGEMENT BOARD

Beaufort Hotel
Beaufort, North Carolina
Hybrid Meeting

October 16, 2023

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INDEX OF MOTIONS

ATTENDANCE

Board Members

Pat Keliher, ME (AA)
Steve Train, ME (GA)
Rep. Allison Hepler, ME (LA)
Renee Zobel, NH, proxy for C. Patterson (AA)
Doug Grout, NH (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
Melanie Griffin, MA, proxy for D. McKiernan (AA)
Raymond Kane, MA (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)
Conor McManus, RI, proxy for J. McNamee (AA)
David Borden, RI (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
Justin Davis, CT (AA)
Bill Hyatt, CT (GA)
Craig Miner, CT, proxy for Rep. Gresko (LA)
Marty Gary, NY (AA)
Emerson Hasbrouck, NY (GA)
Joe Cimino, NJ (AA)
Jeff Kaelin, NJ (GA)
Adam Nowalsky, NJ, proxy for Sen. Gopal (LA)
Allison Murphy, NMFS

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

Ex-Officio Members

Delayne Brown, Law Enforcement Representative

Staff

Robert Beal
Toni Kerns
Tina Berger
Madeline Musante
Caitlin Starks
Tracey Bauer
Emilie Franke
James Boyle
Kristen Anstead
Katie Drew
Jeff Kipp

Guests

Max Appelman, NOAA
Robert Atwood, NH FGD
Pat Augustine
Rob Beal, ME Marine Patrol
Emily Bodell, NEFMC
Alex Boeri, MA DMF
Colleen Bouffard, CT DEEP
Michael Brown, ME DMR
Jeffrey Brust, NJ DEP
Dennis Colbert
Margaret Conroy, DE DNREC
Jamie Cournane, NEFMC
Caitlin Craig, NYS DEC
Scott Curatolo-Wagemann, Cornell Cooperative Extension of Suffolk County
F Joel Fodrie, Institute of Marine Sciences (UNC-CH)
Christine Ford, NOAA
Joe Gresko, CT (LA)
Jaclyn Higgins, TRCP
Jesse Hornstein, NYS DEC
Gregg Kenney, NYS DEC
Blaik Keppler, SC DNR
Chip Lynch, NOAA
John Maniscalco, NYS DEC
Daniel McKiernan, MA (AA)
Meredith Mendelson, ME DMR
Lorraine Morris, ME DMR
Rebecca Nuzzi, Maine Lobstermen's Assn.
Conor ODonnell, NH FGD
Scott Olszewski, RI DEM
Cheri Patterson, NH (AA)
Janice Plante, NEFMC
Will Poston
Marianne Randall, NOAA
Christopher Scott, NYS DEC
Somers Smott, VMRC
Kevin Sullivan, NH FGD
Rachel Sysak, NYS DEC
Laura Tomlinson, MA DMF
Corinne Truesdale, RI DEM
Beth Versak, MD DNR
Megan Ware, ME DMR
Craig Weedon, MD DNR
Shelby White, NC DDMF
Chris Wright, NOAA

The Atlantic Herring Management Board of the Atlantic States Marine Fisheries Commission convened in the Rachel Carson Ballroom via hybrid meeting, in-person and webinar; Monday, October 16, 2023, and was called to order at 9:00 a.m. by Robert E. Beal

CALL TO ORDER

CHAIR ROBERT E. BEAL: All right, good morning, everyone. Let's go ahead and get the Atlantic Herring Board started. First off, welcome to Beaufort, and the ASMFC 81st Annual Meeting. A couple quick announcements before we get up and running with this Board, and I'll probably make them again later today.

Our federal partners from NOAA Fisheries have a travel ban, or they are transitioning to a new travel and budget software program, so they are unable to travel. The NOAA Fisheries folks that participate on our boards and on our other committees will not be in attendance, and they will be participating remotely.

As you notice on your agenda the Chair of this Board is Megan Ware, and I am not Megan Ware, I'm Bob Beal from ASMFC. Megan is coming down this evening, and she wasn't able to get down here last night. She asked me to go ahead and chair this meeting, just to make it simpler, and she doesn't have to do it virtually.

With that, I think those are the announcements we needed to make, and welcome to Beaufort. A number of folks will be around from North Carolina, if you have questions on where to go, where to eat, where to fish, and all those important things.

APPROVAL OF AGENDA

CHAIR BEAL: With that, let's go ahead and get up and running. First thing we need to do is Approval of the Agenda. Any changes or additions to the agenda? Pretty straightforward, we've only got 30 minutes. Not seeing any hands, anything online? I don't think we have any hands online. The agenda stands approved.

APPROVAL OF PROCEEDINGS

CHAIR BEAL: Any changes or additions to the proceedings from January of 2023? It's been a while since this Board has got together. All right, seeing none; those proceedings from January, 2023, are approved by consent.

PUBLIC COMMENT

CHAIR BEAL: That brings us to Public Comment. Any public in the room? There are not a lot of folks in the back here. Any public comments online? Are there any hands raised online? All right, no hands, no public comments here in the room. We will keep moving forward.

SET QUOTA PERIODS FOR THE 2024 AREA 1A FISHERY

CHAIR BEAL: Agenda Item Number 4 is setting the quota periods for the 2024 Area 1A fishery. Caitlin is going to give a quick presentation on that, and provide the background on that, then we'll take final action at the Board. Caitlin.

MS. CAITLIN STARKS: I'll just give a short overview of the Quota Period options for the 2024 Area 1A fishery. The Quota Period system was established by Amendment 3, and then Board action for consideration today is to consider setting the quota periods for the 2024 Area 1A fishery.

Per Amendment 3, quota periods shall be determined annually for Area 1A, and specifically the Board can consider distributing the Area 1A sub-ACL using a bimonthly, a trimester or a seasonal quota period to meet the needs of the fishery. The Board can also decide whether quota from January 1 through May 31, will be allocated to later in the fishing season.

Finally, the Board can specify if underages might be rolled over from one period to the next within the same year. Here on the screen are the three quota

period options outlined in Amendment 3. It's important to note that these allocation percentages are all fixed, and they can only be modified through an addendum.

Up on top of this screen is the bimonthly quota period category, with quota allocated to two-month periods throughout the year, and then two options for no landings prior to June 1st. The next option is in the bottom left, and that is the trimester quota period with three quota periods throughout the year. Finally, there is the seasonal quota category with one option for landings prior to June 1st, and one option for no landings before June 1st.

For reference here, the quota periods that were approved by the Board in recent years. In 2019, the Board allocated the 1A sub-ACL using the bimonthly option, with no landings prior to June 1st. For the most recent four years, the 2020 through 2023, the Board has allocated the Area 1A sub-ACL using the seasonal quota period, with no landings prior to June 1st. That is 72.8 percent allocated to June through September, and 27.2 percent for October through December.

In all of these years the Board did allow underages in one quota period to be rolled into the next period. To wrap up, the Board's action for today is to consider setting the quota period for the 2024 Area 1A fishery from those options in Amendment 3, and for a reference the Area 1A sub-ACL for 2024 is 5,546 metric tons. I can take any questions.

CHAIR BEAL: Any questions for Caitlin on the presentation and process and options available for allocation of the Area 1A quota? Seeing none; I think this Board has been through this drill a number of times. Is there a motion for the allocation of Area 1A quota? Jeff Kaelin.

MR. JEFFREY KAELIN: Yes, I **move that the Board adopt the seasonal quota periods with no landings prior to June 1, the status quo option**.

CHAIR BEAL: Jeff, we're going to get that up on the screen. Make sure it reflects what your intent was. Then I'll ask for a second. Jeff, does this reflect what your intent was, what is up on the screen now? Okay.

MR. KAELIN: Oh, I'm sorry, it's got to be read, duh. Yes, does that satisfy what Caitlin had on the screen for the **status quo option, with the 25 and the 7 percent in the fourth quarter**? I think that's it.

CHAIR BEAL: I guess the other remaining part is whether the **unused quota from one period can be rolled over into the subsequent period**.

MR. KAELIN: I'm sorry, yes, I would like to **add that** if that is possible. I don't have a second anyway.

CHAIR BEAL: Okay, we'll **add that to the motion**, then I'll ask for a second. I think Melanie Griffen had here hand up online. All right, Jeff, are you satisfied with that?

MR. KAELIN: Yes, I am, thank you.

CHAIR BEAL: Ray Kane had his hand up, are you looking to make a second, or you have a question?

MR. RAYMOND W. KANE: I have a question on the wording. Are we implementing seasonal quotas or are we maintaining seasonal closures? I believe this is an FMP as it stands.

MS. STARKS: They have to be set annually, so each year you have to set a new quota period.

MR. KANE: Thanks.

CHAIR BEAL: Is there a second for this motion? Steve Train, thank you. Any discussion on this motion? Doug Grout.

MR. DOUGLAS E. GROUT: Just curious, do we need to **specify the percentages between the seasonal quotas**, or does it just say.

MR. KAELIN: I think it's assumed.

CHAIR BEAL: We will add that for clarity, Doug. We'll get that added while we continue our discussion. I think Melanie is online and had her hand up. Melanie.

MS. MELANIE GRIFFEN: Hey Bob, I was ready to offer a motion very similar with all the percentages in this, so yes, I appreciate the status quo. I think it's much like last years, should provide some stability and access in 1A, and what's in across user groups as we're trying to continue to support stock rebuilding. It's important to this motion, thanks.

CHAIR BEAL: Other comments on this motion, as we perfect it. All right, let's hang tight for a minute while staff perfects it, then I'll call for a vote, unless there is any other comment. **Jeff, this is a little out of order with Robert's Rules, but are you comfortable with the perfected motion that is up on the board? It puts more detail on what your intent was, I believe.**

MR. KAELIN: Yes, that's fine.

CHAIR BEAL: The seconder, is Steve Train, shaking his head yes. I will read the motion into the record, since I think it's been modified a couple times along the way, and then call for a vote. **Move that the Board implement seasonal quota for the 2024 Area 1A sub-ACL seasonally with 72.8% available from June through September and 27.2% allocated from October through December, with no landings prior to June 1, and underages to be rolled over into the next quota period of 2024**. Motion by Mr. Kaelin, second by Mr. Train.

Is there any objection to this motion from the Board? All right, seeing none; this motion stands approved by consent.

UPDATE FROM NEW ENGLAND FISHERY MANAGEMENT COUNCIL

CHAIR BEAL: That brings us to our next agenda item, which is a Report Out from Dr. Cournane from the New England Fishery Management Council. Jamie, are you online and ready to roll?

DR. JAMIE COURNANE: Good morning, I am, thank you. Thank you for the opportunity to provide a brief update from the New England Fishery Management Council. As many of you are aware, there was an inshore midwater trawl closure in place for about a year. It was a roughly 12-mile buffer zone from Rhode Island to the U.S/Canada border with a little larger buffer off of Cape Cod. It prohibited vessels from using, deploying or fishing with midwater trawl gear within that restricted area.

It was addressing concerns at the time by the Council of concentrated intense commercial fishing effort that would negatively impact other user groups that were dependent on herring as forage. It was in addition to the seasonal midwater trawl closure that is in place in Area 1A, and that run June 1 to September 30, annually.

That was vacated by the courts, and since that time the Council has been discussing how to revisit this Amendment 8 Inshore Midwater Trawl closure. Today what I'm going to report on is what the Council has decided to do in its work to address concerns about vacating that management area. Over a series of meeting that occurred in April and June, the Council developed what they refer to as a problem statement or a new action that they'll undertake.

The Council adopts the following problem statement, and the purpose of the action is to develop and implement management actions designed to obtain optimum yield, and improve the conservation status of Atlantic herring by accounting for its critically important role as a forage species in the ecosystem, and minimizing user conflicts created by competing interest on the

herring resource. Between the directed herring fishery and other important user groups, including commercial and recreational fisheries, whale watching and tourism.

Council will explore a range of management alternatives to minimizes user conflicts, including spatially and temporally explicit gear restrictions, area closures and possession limits. The geographic scope of the potential management measures will consider but not be limited to the spatial extent of the Midwater Trawl Restricted Area approved by the Council in Amendment 8, with a particular focus on areas not already subject to seasonal closures to midwater trawl.

Analysis conducted to support this action will also evaluate the changes in the incidental catch of shad and river herring that will likely result in measures adopted to reduce spatial and temporal user conflicts. This last point, the Council wanted to clarify that although we want to develop specific alternatives to address river herring and shad, the analysis conducted in any alternatives in this action will include an analysis of the impacts on river herring and shad. Furthermore, the Council went on to say that it was modifying its priorities to develop this action, and that it could include any gear types in the plan. Recently, at the September Council meeting, the Council had a series of motions to further articulate its plans for this action. It now is referred to Amendment 10. Amendment 10 we have a press release that we shared with the Board.

Hopefully you had a chance to look that over. It covers these three motions the Council made in their September meeting. First was to clarify what this action is going to address. It had been a priority on our list titled, revisit the Amendment 8 Inshore Midwater Trawl closure. Based on the Council's discussion in June, it was clear that this is expanding beyond, not only the footprint of the original area, but the gears that could be involved.

Now it's referred to as an action to minimize user conflicts related to the Atlantic herring fishery. The Council went on to specifically task the Herring Committee and the Plan Development Team to develop what they refer to as a Scoping Document and a schedule for public hearing. They would like to see this draft by the January, 2024 Council meeting. They want an opportunity for in-person hearings and at least one virtual hearing, and these should be designed to solicit participation from all user groups that are interested in the Atlantic herring resource.

They also went on to ask that we review and compile records from past discussions, including those that occurred in Amendment 8, and testimony we received on the Council actions as well. Lastly, the Council went a step further, and designated this as Amendment 10, stating that it's to address spatial and temporal allocation in management of Atlantic herring at the management unit level, to minimize user conflicts, contribute to optimum yield, and support rebuilding of the resource.

Thank you for the opportunity to provide this update. If there are any questions, I can take them. Otherwise, you are more than welcome to e-mail or call me if you have questions about the Council's next steps. We'll be working over the next few months to prepare a draft schedule, and draft scoping document in time for the Council's January meeting.

CHAIR BEAL: Great, thanks, Jamie for the update. One hand here in the room, Justin Davis.

DR. JUSTIN DAVIS: Thank you, Dr. Cournane for that presentation. I have a question. The revised problem statement here for Amendment 10, seems to have lost the language from the earlier problem statement related to assessing changes in incidental catch of shad and river herring that might result from any new management measures implemented. Was that intentional? Sort of, did the Council in their discussions at the most recent

meeting decide that that would not be part of Amendment 10 going forward?

DR. COURNANE: Thank you for your question. To clarify, everything that you see in these motions as well as the motions that took place in June on the problem statement stand. I think of maybe the last motion here on the screen as the Council expressing what kind of action it would like to undertake, and the public process in the second motion.

The third motion really speaks more to the scope, but the problem statement still stands. With respect to river herring and shad, just to be very clear. The Council is not planning to develop specific measures in this action, Amendment 10, that would, for example, reduce impacts on river herring and shad. But what they are committed to doing is analyzing any impacts of the measures that they develop. We look at that routinely with all the actions, but they wanted to be clear with the public that that analysis will occur with this action.

CHAIR BEAL: Great, thanks, any other questions in the room or online for Dr. Cournane? Seeing none; Jamie, thanks again for the update, and the Board looks forward to more updates as the Council works their way through Amendment 10. If there is anything ASMFC can do to help the Council move through that process, you know please reach out and we'll help out.

ELECT VICE-CHAIR

CHAIR BEAL: The next agenda item is the election of a Vice-Chair. I think Melanie Griffin has a motion ready to go. Melanie.

MS. GRIFFEN: I do, thank you. I would **move to nominate Doug Grout as Vice-Chair of the Atlantic Herring Board**.

CHAIR BEAL: Excellent, is there a second to the nomination of Doug Grout, Justin Davis. Dr. Davis, thank you. **Is there any objection to electing Doug Grout as the Vice-Chair, other than from Doug himself, that doesn't count? All right, not seeing any, congratulations, Doug, you are the Vice-Chair of the Herring Board.**

ADJOURNMENT

CHAIR BEAL: That brings us to Other Business. Other business before the Atlantic Herring Board, is there anything else that anyone needs to or wants to bring up at the end of this meeting? We've got a couple extra minutes. Not seeing any, I think we're done pretty quickly. That ends the deliberations of the Atlantic Herring Board.

(Whereupon the meeting adjourned at 9:30 a.m. on October 16, 2023)

draft working paper for peer review only

Atlantic Herring

2024 Management Track Assessment Report

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Fisheries Science Center
Woods Hole, Massachusetts

Compiled 07-02-2024

This assessment of the Atlantic Herring (Clupea harengus) stock is a management track assessment of the existing 2022 management track assessment conducted using the ASAP model. Based on the previous assessment, the stock was overfished but overfishing was not occurring. This assessment updated fishery catch data, survey indices, life history parameters (e.g., weights-at-age), and the ASAP assessment model and reference points (BRPs) through 2023. No significant changes were made to the methods in this assessment.

State of Stock: Based on this management track assessment, the Atlantic Herring stock is overfished and overfishing is not occurring (Figures 1-2). Retrospective adjustments were necessary (SSB Mohn's rho = 0.563 and F Mohn's rho = -0.261.). Adjusted spawning stock biomass (SSB) in 2023 was estimated to be 47,955 (mt) which is 26% of the biomass target (SSB_{MSY} *proxy* = 186,367; Figure 1). The 2023 adjusted average fishing mortality for ages 7-8 (fully selected ages for the mobile fleet) was estimated to be 0.263 which is 58% of the overfishing threshold proxy (F_{MSY} *proxy* = 0.45; Figure 2).

Table 1: Catch and status table for Atlantic Herring. All weights are in mt, recruitment is in 000s, and $\bar{F}_{7-8}$ is the average fishing mortality on ages 7 to 8, which are fully selected by the mobile fleet. Model results are from the current updated ASAP assessment and the values in this table are not adjusted for the retrospective pattern.

	2016	2017	2018	2019	2020	2021	2022	2023
				Data				
US Catch	62,597	48,796	45,527	12,792	8,076	5,202	3,929	9,505
Canadian Catch	4,132	2,133	13,036	5,821	6,041	2,663	3,937	936
Total Catch	66,729	50,929	58,563	18,613	14,117	7,865	7,866	10,441
				Model Results				
Spawning Stock Biomass	139,300	96,996	55,824	46,825	47,303	48,350	87,760	74,977
$\bar{F}_{7-8}$	0.492	0.546	0.793	0.377	0.218	0.137	0.078	0.194
recruits (age1)	314,330	942,400	730,670	1,229,200	756,860	364,770	567,500	1,757,800

Table 2: Comparison of reference points estimated in an earlier assessment and from the current assessment. An $F_{40\%}$ proxy was used for the overfishing threshold, and the biomass proxy reference point was based on long-term, stochastic, projections. 95% CI were reported in parentheses.

	2022	2024
F_{MSY} *proxy*	0.5	0.45
SSB_{MSY} (mt)	185,750 (91,100 - 355,800)	186,367 (95,900 - 340,000)
MSY mt	68,980 (37,390 - 120,154)	78,710 (45,000 - 128,800)
Median recruits (age 1)	2,820,600 (578,900 - 10,441,500)	2,493,500 (485,400 - 9,107,300)
Overfishing	No	No
Overfished	Yes	Yes

Projections: The projection results included here should be considered preliminary and subject to change based on future assessment and management decisions. This example projection applied the harvest control rule described in Amendment 8 of the hering Fishery Management Plan to the mobile fleet. The fixed gear catches are assumed constant during the projection period and equaled 4,047 mt. This fixed gear catch equals the sum of the ten year (2014-2023) averages of the Canadian (4,031 mt) and US (16 mt) fixed gear catches. The US fixed gear catches are those from stop seines, weirs, and pound nets. The reported $\bar{F}_{7-8}$ are those for the mobile fleet. Projected recruitment followed an autoregressive process (AR(1)), and projections were initialized at the 2023 estimated recruitment adjusted for the retrospective pattern (i.e., adjusted value = 1,124,659).

Table 3: Projection results.

Year	Catch mt	SSB (mt)	$\bar{F}_{7-8}$
2024	23,409	34,451	0.593

Year	Catch mt	SSB (mt)	$\bar{F}_{7-8}$
2025	6,741	51,904	0.076
2026	10,885	56,718	0.161
2027	15,435	86,607	0.184

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 definitive explanation for the continued poor recruitment has not been identified. While identifying a causal mechanism for poor recruitment would be immensely beneficial, finding explanations for patterns in recruitment have been elusive in fisheries science for decades. Another uncertainty in this assessment is natural mortality. In this assessment, natural mortality was assumed constant among ages and years. Justifications for including age- or time-varying natural mortality in previous assessments have quickly deteriorated. Uncertainty in natural mortality affects the scale of abundance and fishing mortality estimates, but is unlikely to be related to the recent poor recruitments. Stock structure, particularly mixing with Nova Scotian herring, is also an uncertainty. Migration can be conflated with changes in mortality and contribute to retrospective patterns. Again, however, this is unlikely to explain recent poor recruitment.

- 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 $\bar{F}_{7-8}$ lies outside of the approximate joint confidence region for SSB and $\bar{F}_{7-8}$).

  This assessment model had a retrospective pattern that could be classified as major and required adjustments. While recent assessments have not had major retrospective patterns, these assessments also suggested that the lack of a retrospective pattern could be due to structural changes in the model (e.g., splitting the NMFS BTS survey in 2009 when the R/V Bigelow came into service; NEFSC 2018) and so the reemergence of a retrospective pattern was not suprising.

- 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?

  The projections are uncertain, especially in regards to recruitment.Without other information about recruitment, the likelihood penalty has the effect of pulling the more recent recruitment estimates (i.e., 2022 and 2023) upwards towards the median. The upward increase in recent recruitments was partially offset in projections by applying a retrospective adjustment. Furthermore, assumptions about terminal year recruitment do not have much effect on projection results for 3 or more years because herring are 50% selected by the mobile fleet at about age-4, which causes a delay in the effect of terminal year recruitment assumptions. Just the same, recruitment is a significant uncertainty. Based on the projections done during this management track, the stock is behind the rebuilding schedule (See Framework 9 table 26). The rebuilding plan suggested the population would have a 43% chance of rebuilding by 2025, but this assessment projects <1% chance in that year. The rebuilding plan, however, used the full time series of recruitments when defining reference points and proejctions, which makes them more optimistic than the shortened time frame of recruitments and the AR(1) process applied in this assessment. A sensitivity using an AR(1) process was done during development of the rebuilding plan, but even those projections were more optimistic (25% chance of rebuilding in 2025) than those done during this assessment.

- 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.

  None.

- If the stock status has changed a lot since the previous assessment, explain why this occurred.
  The stock status has not changed a lot since the previous assessment.

- Provide qualitative statements describing the condition of the stock that relate to stock status.
  Continued poor recruitment is the main issue driving stock status. Management decisions that reduced US catches had the effect of avoiding overfishing.

- Indicate what data or studies are currently lacking and which would be needed most to improve this stock assessment in the future.
  Studies related to stock structure and movement would be beneficial, as this has been proposed as a possible explanation for retrospective patterns. While an explanation for drivers of recruitment would be beneficial, it would not directly effect the assessment, and as noted, such explanations are difficult to identify. Modeling the effect of haddock predation on herring eggs is being considered in the Research Track, however. An index of age-1 recruitment based on seabird diet data is being considered in the ongoing Research Track Assessment. This index could be especially informative because the fishery and indices based on bottom trawls do not consistently capture age-1 herring, The seabird diet data are collected by multiple entities (National Audubon Society, USFWS, University of New Brunswick, and University of New Hampshire). Collating this data and developing the index was a tremendous undertaking, only made possible by willing collaborators that collect the data and a volunteer student (Sean Hardison). Continued consideration of this data would benefit from more formal and streamlined sharing agreements with NMFS.

- Are there other important issues?
  No other important issues were identified.

References:

NEFSC (Northeast Fisheries Science Center). 2018. 65^{th} Northeast Regional Stock Assessment Workshop (65^{th} SAW) Assessment Report. US Dept. of Commerce, NEFSC Ref. Doc. 18-11.

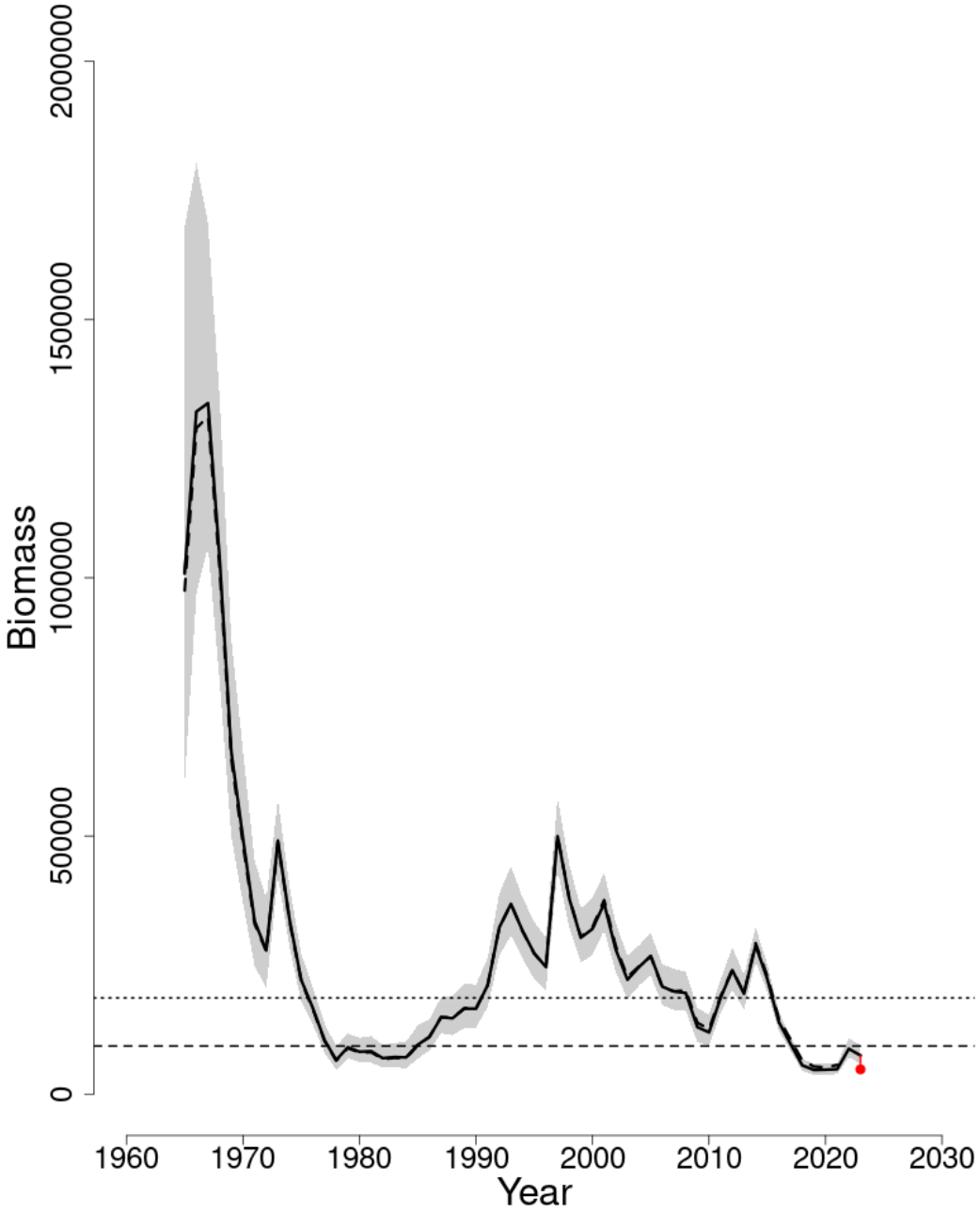


Figure 1: Trends in spawning stock biomass of Atlantic Herring between 1965 and 2023 from the current (solid line) and previous (dashed line) assessment and the corresponding $SSB_{Threshold}$ ($\frac{1}{2}$ SSB_{MSY} *proxy*; horizontal dashed line) as well as SSB_{Target} (SSB_{MSY} *proxy*; horizontal dotted line) based on the 2024 assessment. The approximate 90% confidence intervals are shown. The red line and dot show the value from the 2024 assessment adjusted for the retrospective pattern.

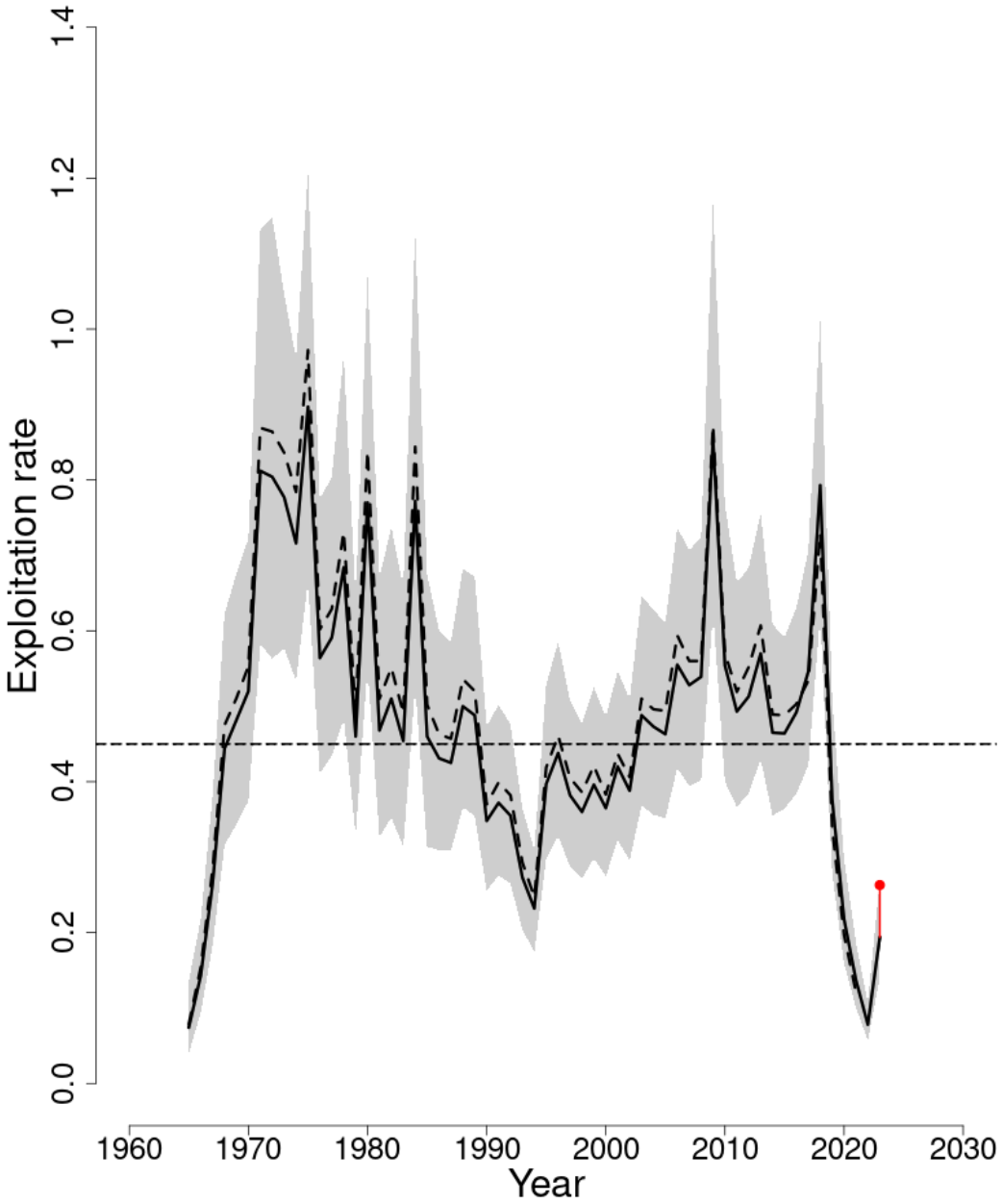


Figure 2: Trends in the average fishing mortality rate for ages 7-8, which are fully selected by the mobile fleet ($\bar{F}_{7-8}$), between 1965 and 2023 from the current (solid line) and previous (dashed line) assessment and the corresponding $F_{Threshold}$ (F_{MSY} *proxy*=0.45; horizontal dashed line). The approximate 90% confidence intervals are shown. The red line and dot show the value from the 2024 assessment adjusted for the retrospective pattern.

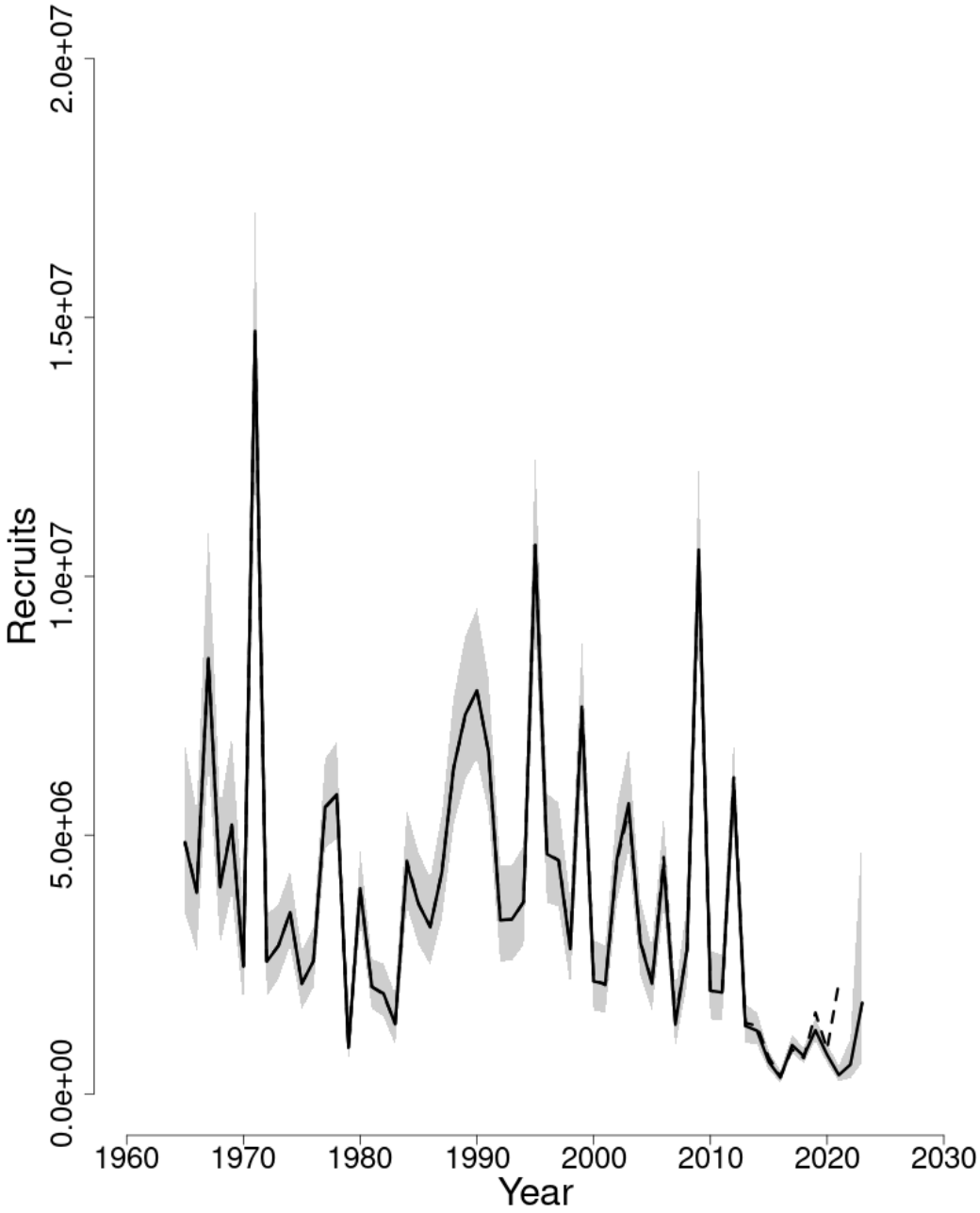


Figure 3: Trends in recruits (age-1)(000s) of Atlantic Herring between 1965 and 2023 from the current (solid line) and previous (dashed line) assessment. The approximate 90% confidence intervals are shown.

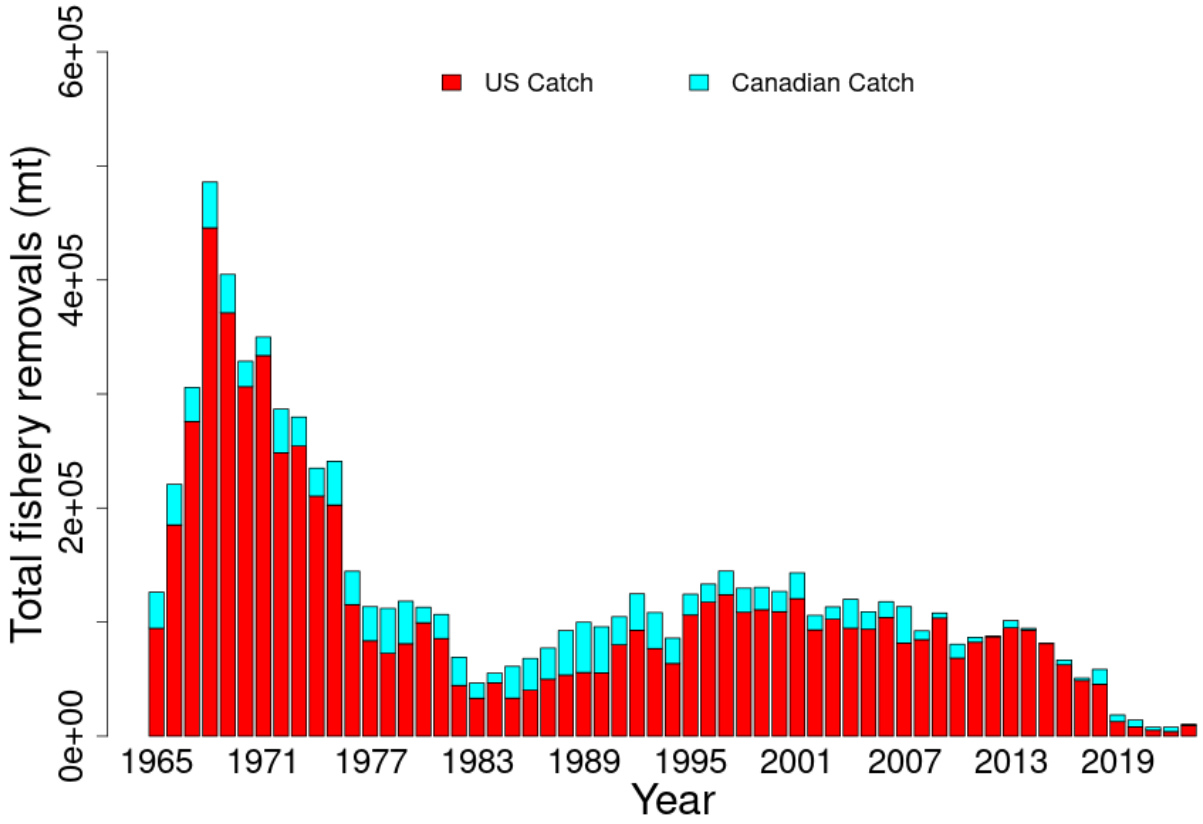


Figure 4: Total catch of Atlantic Herring between 1965 and 2023 by US and Canadian fleets.

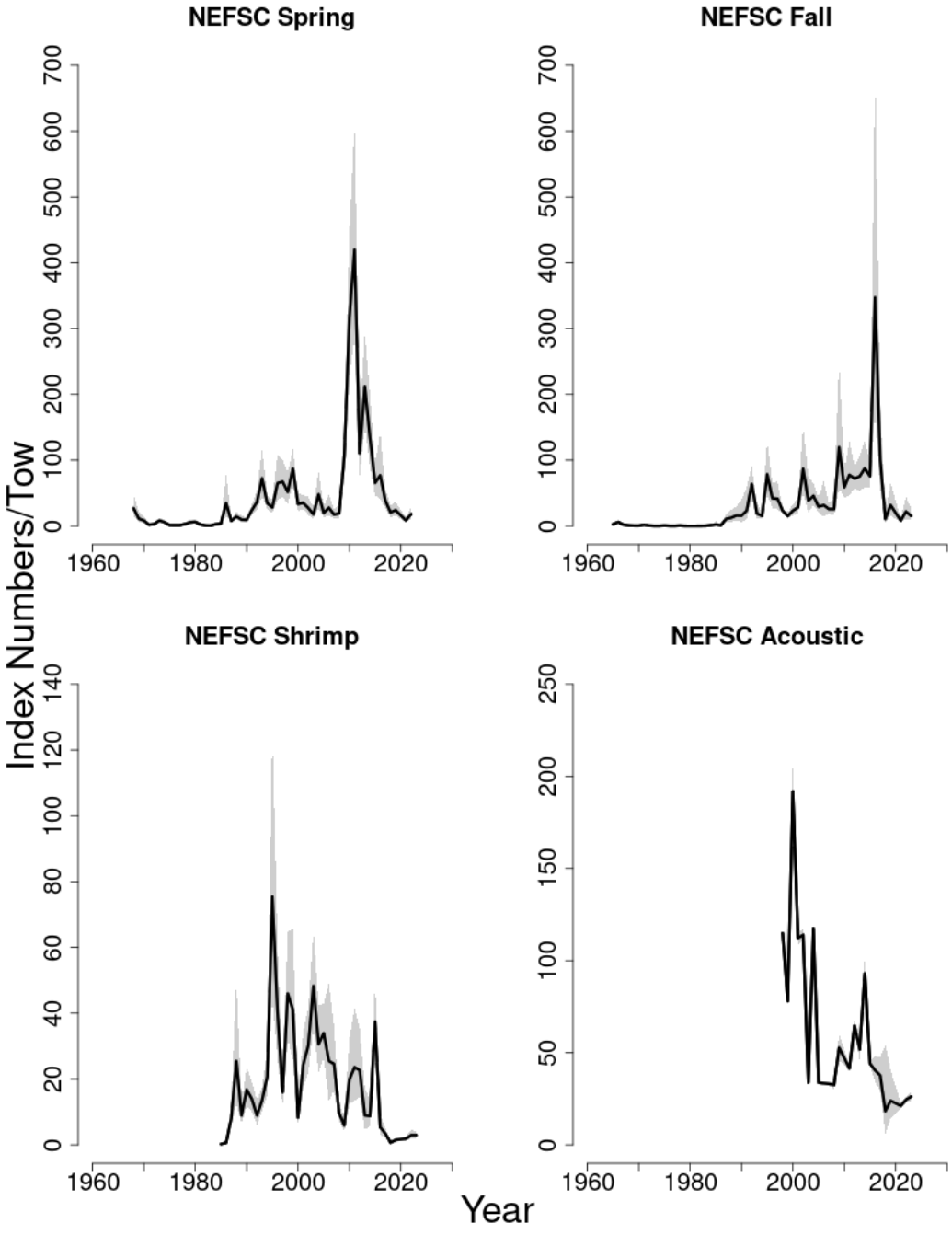


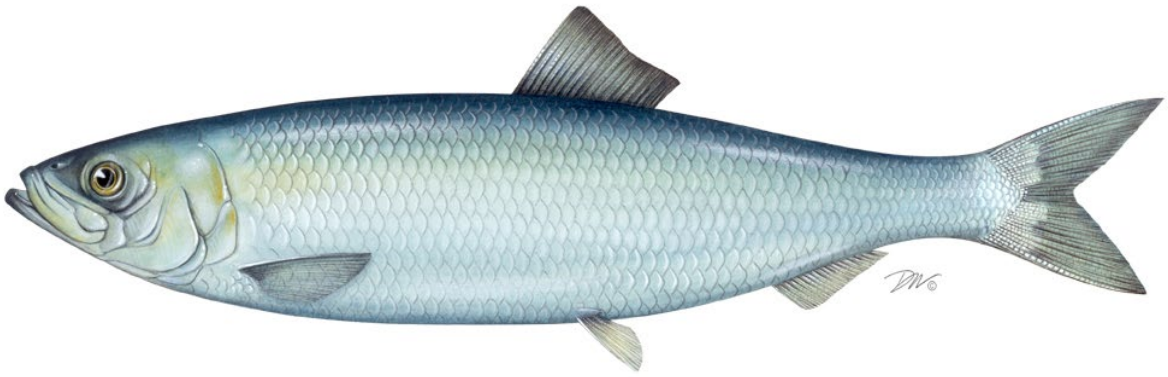
Figure 5: Indices of abundance for Atlantic Herring between 1965 and 2023 for the Northeast Fisheries Science Center (NEFSC) spring, fall, and shrimp bottom trawl surveys. The NEFSC acoustic index is collected during the fall bottom trawl survey and is in units of acoustic backscatter, not absolute numbers. The approximate 90% confidence intervals are shown.

ATLANTIC STATES MARINE FISHERIES COMMISSION

REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN

FOR ATLANTIC HERRING
(Clupea harengus)

2023 FISHING YEAR



Prepared by the Atlantic Herring Plan Review Team

For Board Review July 2024

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

Table of Contents

I. Status of Fishery Management Plan

Date of FMP Approval	November 1993
Amendments	Amendment 1 (February 1999) Amendment 2 (March 2006) Amendment 3 (February 2016)
Addenda	Addendum I to Amendment 1 (July 2000) Technical Addendum #1A to Amendment I (October 2001) Addendum II to Amendment I (February 2002) Technical Addendum 1 to Amendment 2 (August 2006) Addendum I to Amendment 2 (March 2009) Addendum II to Amendment 2 (December 2010) Addendum V to Amendment 2 (October 2012) Addendum VI to Amendment 2 (August 2013) Addendum I to Amendment 3 (May 2017) Addendum II to Amendment 3 (May 2019)
Management Unit	US waters of the northwest Atlantic Ocean from the shoreline to the seaward boundary of the Exclusive Economic Zone (East Coast of Maine), and from the US/Canadian border to the southern end of the species range (Cape Hatteras, North Carolina).
States With Declared Interest	Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, and New Jersey
Active Boards/Committees	Atlantic Herring Management Board (Since August 2018; previously Section), Advisory Panel, Technical Committee, Stock Assessment Subcommittee, and Plan Review Team

Atlantic herring (*Clupea harengus*), also known as sea herring, are an oceanic fish that occur in large schools and undergo seasonal inshore-offshore migrations. Herring are important to the Northwest Atlantic ecosystem as a forage species and to the fishing industry as bait for lobster, blue crab, and tuna. To a lesser degree this resource also serves as a food, typically canned, pickled, or smoked. The U.S. Atlantic herring fishery is currently managed as a single stock through complementary plans by the Atlantic States Marine Fisheries Commission (ASMFC) and the New England Fishery Management Council (NEFMC).

The stockwide annual catch limit (ACL) is divided amongst four distinct management areas (Figure 1): inshore Gulf of Maine (Area 1A), offshore Gulf of Maine (Area 1B), Southern New England/Mid- Atlantic (Area 2), and Georges Bank (Area 3). The Area 1A fishery is managed by ASMFC's Atlantic Herring Management Board (Board), which includes representatives from Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York and New Jersey.

Amendment 1 (February 1999) was developed in order to maintain consistency between the ASMFC and NEFMC FMPs. This amendment establishes the same overfishing definition and biological reference points as the NEFMC, which were created under guidelines stipulated in the revised Magnuson-Stevens Fishery Conservation and Management Act prior to the 2006 re-authorization. The overfishing and biological reference points are based on an estimate of maximum sustainable yield (MSY) for the entire stock complex.

Amendment 1 also establishes "days out" control measures which prohibit directed fishing on Friday and Saturday when 50% of the TAC is projected to be harvested, Friday through Sunday when 75% of the TAC is projected to be harvested, and Thursday through Sunday when 90% of the TAC is projected to be harvested.

Addendum I (July 2000)
The Section developed Addendum I (to Amendment 1) to re-address the protection of spawning areas because NOAA Fisheries rejected the spawning closures in federal waters for Management Area 1A (inshore Gulf of Maine). Specifically, Addendum I redefines the state waters spawning areas outlined in Amendment I. This addendum also changed the due date for annual state compliance reports to February 1st.

Technical Addendum 1a (October 2001)
The Section approved Technical Addendum #1a (to Amendment 1) to change the delineation of the Eastern Maine spawning boundary because the spawning aggregations were not adequately protected in 2000.

Addendum II (February 2002)
Addendum II (to Amendment 1) was developed in conjunction with the NEFMC's Framework Adjustment I to allocate the Management Area 1A Total Allowable Catch (TAC) on a seasonal basis. Addendum II also specifies the procedures for allocating the annual Internal Waters Processing (IWP) quota.

Amendment 2 (March 2006)
Amendment 2 was developed in close coordination with the NEFMC as they developed Amendment 1 to the Federal Fishery Management Plan for Atlantic Herring. The NEFMC's Amendment 1 is complementary to ASMFC Amendment 2 in that both documents' goal is optimum yield through coordinated management between state and federal waters. Amendment 2 altered the management boundaries, set biological reference points, expanded on the TAC specification setting process, established research set-asides, altered days out measures, removed any allowance for fishing during spawning closures, and granted exemptions for east of Cutler fixed gear fishermen.

Changes to the management boundaries were based on recommendations from the 2003 TRAC to better reflect spawning distributions and minimize reporting errors. The new boundaries result in a larger boundary for Area 3.

The biological reference points, based on MSY = 220,000 metric tons (mt), give a measurable criteria for overfishing and overfished and allow management to determine if rebuilding efforts are necessary. The TAC process only changed slightly with Amendment 2. Amendment 2 allows analytical approaches other than those defined in Amendment 1 to establish area-specific TACs. These changes allow the TC to use the best available science when recommending TACs rather than binding them to methods that were the best when Amendment 1 was created. Another change to the TAC process under Amendment 2 is that the Section will set the TACs for three years with the flexibility to adjust in interim years.

Research set asides were established under Amendment 2 allowing up to 3% of an area to be designated for and allocated to research.

In addition to establishing a number of new management measures, Amendment 2 altered several measures enacted in Amendment 1. Default percentages for setting days out were removed to allow states adjacent to an area to meet and agree on which days to take out as best meets the needs of the fishery for that given year. The 20% spawning tolerance for directed fishing during spawning closures was removed and a "Zero-Tolerance" measure was enacted. Amendment 2 also granted exemptions for east of Cutler fixed gear fishermen from days out and spawning closure restrictions established in Amendment 1. These exemptions were granted because the east of Cutler landings are part of a New Brunswick stock and have been insignificantly small historically. These herring do not often migrate inshore until after the Area 1A TAC is harvested making exemptions the only way to protect this historical fishery. These landings are counted against the overall Area 1A TAC.

Technical Addendum I (August 2006)

Technical Addendum I was developed to clarify the intent of the "Zero Tolerance" spawning provision of Amendment 2. Some states were interpreting the zero tolerance to mean that you could still fish in an area closed to spawning as long as no spawn herring were present in the area. This addendum makes it clear that *any vessel is prohibited to fish for, take, land, or possess herring from or within a restricted spawning area.*

Addendum I (February 2009)

Addendum I (to Amendment 2) was developed to control effort in Area 1A using a combination of quotas, additional days out restrictions, and weekly state reporting requirements to effectively manage quota. Specifically, Addendum I allows states adjacent to Area 1A to select bimonthly, trimester, or seasonal quotas as best meets the needs of the fishery. States also have the flexibility to save quota from January – May and distribute it to later in the year when price and demand are often higher. Fishermen are restricted to one landing per day and state-only fishermen must report weekly in order to effectively manage quota.

Addendum II (December 2010)

Addendum II was designed to mirror the NEFMC Amendment 4 and changes the specifications' definitions (and associated acronyms), modifies the process to set specifications, and establishes accountability measure (AM) paybacks. Under Addendum II, the overall quota is

now called an annual catch limit (ACL) and the quota allocated to each management area (Area 1A, 1B, 2, 3) is called a sub-ACL (previously TAC). In addition, if harvest in any area is exceeded, the sub-ACL will be reduced by an amount equal to the overage the first year after final landings are available.

NEFMC's Amendment 4 includes provisions to bring the Herring FMP into compliance with provisions of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006. It changes the specification setting process and definitions to include an overfishing limit, acceptable biological catch, annual catch limits, and accountability measures, as well as involvement of a Science and Statistical Committee.

Addendum V (August 2012)

Addendum V refines and clarifies current spawning regulations without making significant changes. Specifically, Addendum V establishes when closures are triggered based on the percent of stage III – V spawn herring that are greater than or equal to 23 cm and increased the number of samples states are required to collect from 50 to 100 (states are currently sampling at this level). The Addendum replaces all spawning regulations in previous management documents to provide a single, clear document for states to use when complying with ASMFC spawning regulations.

Addendum VI (August 2013)

The Addendum improves alignment between state and federal Atlantic herring management by allowing the use of consistent tools across all four management areas of the species range. The Addendum's measures include (1) seasonal splitting of the annual catch limit sub-components (sub-ACLs) for Areas 1B, 2, and 3; (2) up to 10% carryover of a sub-ACL for all management areas; (3) the establishment of triggers to initiate the closing of directed fisheries; and (4) the use of the annual specification process to set triggers.

Amendment 3 (February 2016)

Amendment 3 refines the spawning closure system, modifies the fixed gear set-aside, and includes an empty fish hold provision contingent on federal adoption. The Amendment allows for the use of a modified GSI-based spawning monitoring system to track reproductive maturity in an effort to better align the timing of spawning area closures with the onset of spawning, which was tested and evaluated for effectiveness during the 2016 fishing season. Additionally, the fixed gear set-aside that was previously available to fixed gear fishermen exclusively only through November 1, is now accessible to them as long as the directed fishery is open. Amendment 3 consolidates prior amendments (and associated addenda) and recent management decisions into a single document; it is now the comprehensive document for Atlantic herring management in state waters.

Addendum I (May 2017)

Addendum I includes management measures intended to stabilize the rate of catch in the Area 1A fishery and distribute the seasonal quota throughout Trimester 2 (June through September), which has 72.8% of the season's allocation. For the 2017 fishing season, the addendum

established that the Section would separately address days out provisions for federal herring Category A vessels and small-mesh bottom trawl vessels with a federal herring Category C or D permit. In addition to landing restrictions associated with the days out program, Category A vessels are now prohibited from possessing herring caught from Area 1A during a day out of the fishery. Small-mesh bottom trawl vessels with a Category C or D permit must notify states of their intent to fish in Area 1A prior to June 1st. The addendum also implements a weekly harvester landing limit for vessels with a Category A permit for the 2017 fishing season. Forty-five days prior to the start of the fishing season, Category A vessels will notify states of their intent to fish in Area 1A, including a specification of gear type, to provide states with an estimate of effort to calculate the weekly landing limit. States may also either implement measures that herring caught in Area 1A can only be landed by the respective harvester vessel (i.e. no carrier vessels) or that herring carrier vessels are limited to receiving at-sea transfers from one harvester vessel per week and landing once per 24-hour period. Through the addendum, NOAA Fisheries granted access to vessel monitoring system-submitted daily catch report data for select staff in Maine, New Hampshire and Massachusetts to provide real-time data for the states to implement a weekly landing limit. The Section also approved continuing the use of the GSI30-based forecast system to determine spawning closures in Area 1A.

Addendum II (May 2019)

Addendum II strengthens spawning protections in Area 1A (inshore Gulf of Maine) by initiating a closure when a lower percentage of the population is spawning (from approximately 25% to 20%), and extending the closure for a longer time (from four to six weeks). The Addendum also modifies the trigger level necessary to reclose the fishery, with the fishery reclosing when 20% or more of the sampled herring are mature but have not yet spawned. These changes to spawning protections are in response to the results of the 2018 Benchmark Stock Assessment which showed reduced levels of recruitment and spawning stock biomass over the past five years, with 2016 recruitment levels the lowest on record.

II. Status of the Stock

A 2024 Management Track Assessment (i.e., assessment update) for Atlantic herring was completed by NOAA's Northeast Fisheries Science Center (NEFSC) and is an update to the 2022 Management Track Assessment which was peer reviewed in June 2022 (NEFSC 2024; Miller et al. 2022; NEFSC 2022). No significant changes were made to the methods in the 2024 assessment as compared to the 2022 assessment. The 2024 assessment updated fishery catch data, survey indices, life history parameters (e.g., weights-at-age), and the age-structured model (ASAP) and biological reference points (BRPs) with data through 2023.

The 2024 assessment update indicates the Atlantic herring stock is overfished but not experiencing overfishing based on the biological reference points for spawning stock biomass (SSB) and fishing mortality (F). This is the same stock status as determined by the 2022 assessment. SSB has been declining since 2014 and was estimated to be 47,955 metric tons in 2023, which is 26% of the SSB target of 186,367 metric tons (Figure 2). F was estimated to be 0.263 in 2023, which is 58% of the overfishing threshold of 0.45. Both the 2022 and 2024

assessments noted poor recruitment, and the difficulty of identifying a causal mechanism for this recruitment trend.

The Atlantic herring stock is currently under a rebuilding plan in response to the overfished finding of the 2020 management track assessment (NEFSC 2020). The final rule implementing Framework Adjustment 9 to the federal Atlantic Herring FMP established a rebuilding plan for herring that became effective in August 2022 (87 FR 42962; July 19, 2022). The rebuilding plan applies the acceptable biological catch (ABC) control rule implemented for Atlantic herring.

The NEFMC and the ASMFC Atlantic Herring Management Board will consider the results of the 2024 stock assessment, stock projections, and the rebuilding plan to inform setting specifications for 2025-2027.

III. Status of the Fishery

There is an Atlantic herring fishery in the United States and Canada (Figure 3). Herring in the US are primarily caught using mobile gear (e.g., purse seines and mid-water trawls). Herring in Canada and a small portion of US-caught herring are caught using fixed gear (e.g., weir fishery).

The U.S. Atlantic herring fishery is controlled by annual catch limits (ACL) set by NOAA Fisheries. The stockwide ACL is distributed among the four management areas. Specifications are set every three years and adjusted annually to account for overages or underages from the previous fishing season. Once 92% of the sub-ACL for an area is reached, the respective fishery is closed. The stockwide fishery closes when 95% of the total ACL is projected to be reached. Following a closure, there is a 2,000 lb trip limit to allow for incidental bycatch of Atlantic herring for the remainder of the fishing year. In addition to quota-based closures, the "days out" and spawning closure programs in Area 1A provide additional measures to control fishing effort.

For the 2023 fishing season, the ACL was set at 27.4 million pounds (12,429 mt), which was later adjusted to 27.1 million pounds (12,287 mt) to account for overages in 2021. The ACL is further subdivided into sub-ACLs by the Atlantic herring management areas as follows (accounting for adjustments due to 2021 catch overages/underages): Area 1A = 7.4 million pounds (3,345 mt), Area 1B = 1.2 million pounds (555 mt), Area 2 = 7.9 million pounds (3,589 mt), and Area 3 = 10.6 million pounds (4,806 mt). After adjusting for the 30 mt fixed gear set-aside and the 8% buffer (Area 1A closes at 92% of the sub-ACL), the 2023 Area 1A sub-ACL was 3,050 mt. There was no research-set-aside for 2023. The Board established the following seasonal allocations for the 2023 Area 1A sub-ACL: 72.8% available from June 1 – September 30 and 27.2% available from October 1 – December 31.

The domestic Atlantic herring fishery is predominantly commercial; preliminary data indicate recreational harvest accounted for less than 2% of landings in 2023. For the past five years (2019-2023), recreational harvest has accounted for an average 2.9% of total landings each year. Since 2000, annual commercial landings by the United States Atlantic herring fleet

averaged roughly 143.5 million pounds (65,091 mt) (ACCSP, Figure 4). Since 2013, commercial landings have generally decreased and reached the lowest levels the time series in 2021 and 2022 at below 12 million pounds (below 5,443 mt) each year (Figures 3-4).

The Interstate FMP implements specific effort control measures for Area 1A (inshore Gulf of Maine). Catch, in metric tons, from Area 1A is shown in Table 1a. Preliminary information from 2023 indicates that 4,345 mt were caught in Area 1A, representing 101% of the Area 1A sub-ACL (not including the 30 mt fixed gear set-aside). Since the directed fishery closes (i.e., 2,000 pound possession limit) when 92% of an area's sub-ACL is projected to be reached, the Area 1A fishery in state waters closed and landings were prohibited effective 6:00 p.m. on November 6, and the Area 1A fishery in federal waters closed effective 12:01 a.m. on November 8.

Table 1a: Area 1A catch, sub-ACL, and associated directed fishery closures from 2014-2023. 2023 data are preliminary. Source of catch information: NOAA Fisheries.

Year	Area 1A Sub-ACL (mt)	Area 1A Catch (mt)	% Utilized	Area 1A Sub-ACL Closure
2014	33,031	32,898	100%	Oct-26
2015	30,585	28,861	94%	Nov-2
2016	30,524^	27,806	91%	Oct-18
2017	32,115^	28,682	89%	NA
2018	28,038	24,861	89%	NA
2019	5,223^	4,916	94%	Nov-27
2020	4,244^	4,353	103%	Nov-11$^{\pm}$
2021	2,609^	2,856	109%	Nov-11$^{\pm}$
2022	2,075^	2,325	116%	Nov-8$^{\pm}$
2023	4,315^ (not including 30 mt fixed gear set-aside)	4,345**	101%	Nov-8$^{\pm}$

^Area 1A sub-ACL was increased by 1,000 mt during the season as required when the Canadian New Brunswick weir fishery lands less than a specified amount through October 1st. This action re-allocates 1,000 mt from the management uncertainty buffer to the Area 1A sub-ACL and ACL.
***Preliminary landings data*
$^{\pm}$The Area 1A fishery in state waters closed and landings were prohibited effective Nov 7, 2020, Nov 8, 2021, Nov 7, 2022, and Nov 6, 2023; the Area 1A fishery in federal waters closed effective Nov 11 in 2020-2021 and Nov 8 in 2022-2023.

In 2023, a 2,000 pound possession limit was implemented in Area 1B from January 11 through March 22 and in Area 3 from January 13 through March 22 due to catch projections reaching 92% and 98% of the area sub-ACLs, respectively. Effective March 23, specifications for 2023 were revised and sub-ACLs for those management areas increased, thereby removing the initial 2,000 pound possession limits. Starting May 14, a 2,000 pound possession limit was implemented in Management Area 3 due to catch projections reaching 98% of the area's revised sub-ACL. Starting April 26, a 2,000 pound possession limit for midwater trawl vessels was implemented in the Cape Cod River Herring and Shad Catch Cap Area (spanning parts of

Area 1B and Area 3) due to projections reaching 95% of the river herring and shad catch cap for that area.

Catch, in metric tons, from all management areas is shown in Table 1b for the last five years (2023 data are preliminary).

Table 1b: Catch and sub-ACL for all management areas 1A, 1B, 2, and 3 from 2019-2022. 2022 data are preliminary. Source of catch information: NOAA Fisheries

Year	Area	Sub-ACL (mt)	Catch (mt)	% Utilized
2019	1A	5,223	4,916	94%
	1B	628	159	25%
	2	4,062	4,750	117%
	3	5,700	3,254	57%
	Overall	**15,574**	**13,079**	**84%**
2020	1A	4,244	4,353	103%
	1B	483	831	172%
	2	3,120	353	11%
	3	4,378	4,054	93%
	Overall	**12,224**	**9,591**	**78%**
2021	1A	2,609	2,856	109%
	1B	239	0	0%
	2	652	191	29%
	3	2,181	2,222	102%
	Overall	**5,128**	**5,268**	**103%**
2022	1A	2,075	2,325	112%
	1B	0	6	-
	2	1,300	79	6%
	3	1,824	1,825	100.1%
	Overall	**4,813**	**4,234**	**88%**
2023	1A	4,315[+]	4,345**	101%**
	1B	555	197**	35.5%**
	2	3,589	462**	13%**
	3	4,806	5,141**	107%**
	Overall	**13,287**	**10,144****	**76%****

***Preliminary 2023 landings data from 12-29-2023 NOAA Fisheries Quota Monitoring Report*
+Not including 30 mt fixed gear set-aside.

2023 Fishing Season

Based on preliminary data provided in state compliance reports, coastwide landings in 2023 were approximately 23 million pounds, which is more than double 2022 landings, primarily due to more quota being available in 2023. Notably, landings in Maine about quadrupled relative to 2022, and landings in Rhode Island increased tenfold relative to 2022. Landings in Massachusetts were about the same in 2023 as in 2022.

Maine and Massachusetts accounted for the majority (>90%) of the commercial Atlantic herring landings in 2023 (Table 2), similar to previous years. Rhode Island accounted for over 6% of commercial landings in 2023, which is an increase from recent years when it has typically accounted between 1 and 4% of commercial landings.

Landings in Connecticut and New York remained low in 2023 at less than 1% each of the coastwide total. In their compliance report, Connecticut noted the very low landings in recent years and are substantially less than landings in the early 2000s; further, Connecticut noted the Atlantic herring fishery for bait component has diminished with the reduction in of the number of active Connecticut commercial lobstermen in the last twenty years.

It is also important to note that some vessels regularly land herring in states outside of their homeport state (e.g., New Jersey vessels often land in Massachusetts).

The PRT noted that Atlantic herring landings can be variable in some states, particularly from Areas 2 and 3, dependent on the occurrence of mackerel trips. Additionally, Atlantic herring may overlap with other species in those areas in certain gears (e.g., small mesh bottom trawls and midwater trawls), which can be challenging for harvesters if possession limits are in place for some overlap species. For example, Atlantic mackerel trips limits have been restrictive to midwater trawl vessels targeting Atlantic herring.

A small portion of total Atlantic herring landings are from fixed gear, primarily in Maine state waters. In 2022 and 2023, anecdotal reports from Maine fixed gear harvesters noted that larger, adult herring were present and available to the fishery compared to past recent years. In 2023, anecdotal reports from fixed gear harvesters also noted general high abundance of fish in Maine state waters in May and June, including Atlantic herring, menhaden, Atlantic mackerel, and alewives. The harvesters noted that the overlap of these species made targeted fishing more challenging. For example, the increased presence of harvestable Atlantic herring may not have fully translated to fixed gear landings because some fixed gear catches had to be released due to the additional presence of river herring. Per Maine regulations for river herring, there is a 5% tolerance for river herring as bycatch (no more than 5% of the total catch by count is comprised of river herring).

Table 2. 2023 commercial landings by state and percent of total harvest. 2023 landings data are considered preliminary at this time. Source: State compliance reports.

	Commercial Landings (lbs) Preliminary	**Percent of Total**
ME	16,114,140	<70%
NH	0	0%
MA	5,487,938	<24%
RI	1,592,747	<7%
CT	Confidential	<1%
NY	10,757	<1%
NJ	0	0%

Days Out Provisions for Area 1A

Table 3 outlines the 'days out' program and effort control measures which were implemented in Area 1A in 2023. The Board implemented seasonal allocations for the 2023 fishery which allocated the Area 1A sub-ACL between Season 1: June-September (72.8%) and Season 2: October-December (27.2%). Maine, New Hampshire, and Massachusetts delayed the start of the fishery until July 16. Specifications for Season 1 established five (5) consecutive landing days a week for vessels with a Category A permit, and six (6) consecutive landing days a week for vessels with a Category C or D permit. Vessels with a Category A permit were also limited to a weekly landing limit of 320,000 pounds (8 trucks) per harvester vessel. The fishery moved to zero (0) landings days starting August 26 through September 30 as the harvest had reached 92% of the Season 1 allocation.

Landing days were set at zero for Season 2 from October 1 through October 9. Landing days were then set at two consecutive days for October 10-11, followed by a period of zero landing days from October 12 through November 4. Following the reallocation of 1,000 mt from the management uncertainty buffer to the Area 1A sub-ACL based on catch information from the Canadian New Brunswick weir fishery, the fishery moved to four consecutive landing days per week starting November 5 at 6:00 p.m. The Area 1A fishery in state waters closed and landings were prohibited effective November 6 at 6:00 p.m. and the Area 1A fishery in federal waters closed effective November 8 at 12:01 a.m. as NOAA had projected that 92% of the Area 1A sub-ACL to have been harvested.

Table 3: 2023 'days out' program for seasonal quota periods in Area 1A.

Seasonal quota periods	Date Effective	Consecutive Landing Days for Category A Permit	Weekly Landings Limit for Category A Permit	Consecutive Landing Days for Category C/D Permits	Poundage that can be Transferred to a Carrier Vessel
1	July 16*-Aug 25	5	320,000	6	0
	Aug 26-Sept 30	0	0	0	0
2	Oct 1-Oct 9	0	NA**	NA**	NA**
	Oct 10-11	2	NA**	NA**	NA**
	Oct 12-Nov 4	0	NA**	NA**	NA**
	Nov 5	4	NA**	NA**	NA**

**Zero landings days were specified for June 1 until the start of the fishery. Fishery did not begin until July 16 in all three Area 1A states (Maine, New Hampshire, and Massachusetts)*

***Weekly Landing Limits, Landing Days for Category C/D Permits, and Carrier Vessel limits can only be specified through Sept 30*

Spawning Area Closures

The Atlantic Herring Area 1A (inshore Gulf of Maine) fishery regulations include seasonal spawning closures for portions of state and federal waters in Eastern Maine, Western Maine and Massachusetts/New Hampshire. In 2017, the Commission's Atlantic Herring Section permanently implemented the GSI_{30} Based Forecast System for spawning closures in Area 1A. This forecasting method relies upon at least three samples, each containing at least 25 female herring in gonadal stages III-V, to trigger a spawning closure. If sufficient samples are not available, the spawning closure occurs on the default dates outlined in Amendment 3. As noted in the Status of the Fishery Management Plan section, Addendum II to Amendment 3 further modified the trigger for initiating a closure as well as the length of closures.

In 2023, the Eastern Maine spawning area closed on the default date of August 28th through October 8th, given there were no samples from the area at the time. The Western Maine and Massachusetts/New Hampshire spawning closed due to insufficient samples on the default date of September 23rd through November 3rd.

IV. Status of Research and Monitoring

Under Amendment 3, states are not required to conduct monitoring for Atlantic herring. However, state survey programs designed to catch other species may encounter herring regularly, so some states do collect biological information on Atlantic herring. A summary of these surveys results follows.

Maine and New Hampshire: These states jointly operate an inshore bottom trawl survey in the spring and fall that is designed to catch groundfish, but regularly encounters adult Atlantic herring. In 2023, the survey reported Atlantic herring observations during both the Spring and Fall surveys. In the Spring 2023 survey, Atlantic Herring were caught in 39 of the 97 tows, and a maximum of 16,224 were caught in one tow (a decrease from the maximum tow in Spring 2022). In the Fall survey, Atlantic Herring were caught in 45 of the 78 tows, and a maximum of 13,330 were caught in one tow (an increase from the maximum tow in Fall 2022).

Maine Department of Marine Resources also conducts commercial portside catch sampling. In 2022, a total of 31 biological sampling events occurred, covering purse seine, mid-water trawl, small-mesh bottom trawl and fixed gear trips. The collection of samples in 2023 was a doubling of samples that occurred in 2022 when 14 samples were collected. This reflects the moderate increase in management area sub-ACLs and fishing activity.

New Hampshire Fish and Game Department also conducts a juvenile finfish seine survey in the Great Bay, its tributaries, and other coastal harbors. In 2023, 28 Atlantic herring were observed during the months of June, August, and September. This is similar to the low observation of 83 Atlantic herring in the 2022 survey, and much lower than the 2021 survey when 2,410 Atlantic herring were observed during the months of June through November.

Massachusetts Division of Marine Fisheries noted fishery dependent sampling was once again not conducted due to lack of Research Set-Aside. Commercial samples were collected from Area 1A fishery landings in support of Maine Department of Marine Resources' biological sampling project.

Rhode Island Division of Marine Fisheries conducts a Seasonal Trawl Survey to develop abundance indices for Atlantic herring. The survey is conducted seasonally (spring/fall) in Rhode Island and Block Island Sound and monthly in Narragansett Bay. Fishery-independent monitoring for 2023 revealed contrasting signals between monthly and seasonal surveys. There was lower monthly biomass (0.07 kg/tow) and abundance (38.14 fish/tow) in 2023 when compared with the five year average (2018-2022: 77.85 fish/tow, 0.40 kg/tow). In contrast the seasonal spring survey was higher in both number of fish per tow and biomass per tow (140.28 fish/tow, 1.69 kg/tow) than the 5 year average (2018-2022: 107.67 fish/tow, 0.96 kg/tow).

Connecticut Department of Energy and Environmental Protection monitors Atlantic herring through the Long Island Sound Trawl Survey (LISTS), which is conducted each spring and fall since 1984. LISTS was completed in 2023, however the April survey was not conducted due to delays in vessel repairs. April has historically seen higher catches during the survey, so a lower spring index of abundance would be expected. However, over the last seven years Atlantic herring abundance has also had four of the lowest indices in the time series. The 2023 spring index was the same as in 2022 at 0.24 fish/tow. The 2017 index is the lowest since 1984 at 0.11 fish/tow. The 2023 Atlantic herring spring index is about 63% less than the previous ten years and 86% lower than the time series average (1.67 fish/tow). As noted, most of LISTS catches typically have occurred in the month of April, prior to herring leaving the Sound, however warming water temperatures in Long Island Sound particularly have affected the timing of Atlantic herring leaving, and this is likely one of the main drivers of recent low catches. Most Atlantic herring taken in LISTS spring survey are greater than 20 cm fork length, however, LISTS has seen numerous catches of smaller herring (<10cm) during the spring of 1997-1999 and 2004-2013. Juvenile Atlantic herring are poorly retained in the survey codend mesh (54 mm). It is believed that juvenile Atlantic herring may have been a significant component of the Long Island Sound forage base at the time. Typically few fish appear in the fall survey and those present are generally less than 15 cm.

New York has *de minimis* status and does not conduct directed monitoring of Atlantic herring.

New Jersey Division of Fish and Wildlife monitors Atlantic herring through the New Jersey Ocean Trawl Survey, which collects samples during five surveys conducted throughout the year (January, April, June, August, October) between Sandy Hook, NJ and Cape Henlopen, Delaware. In 2023, due to vessel issues the January Ocean trawl survey was cancelled, but all other months were sampled. The 2023 ocean trawl survey yielded 19.25 pounds (166 individuals) of Atlantic herring. This was much lower than the 2022 observations of 781.03 pounds (2,692 individuals) of Atlantic herring.

V. Status of Assessment Advice

Research recommendations from the 2018 benchmark stock assessment (NEFSC 2018)[1] and the 2022 management track assessment (Miller et al. 2022)[2] are listed in the final assessment reports starting on p.517 of the benchmark stock assessment report and p.10 of the 2022 assessment peer review report.

VI. Management Measures and Issues

Amendment 3 to the Interstate Fishery Management Plan for Atlantic Herring lists the following state regulatory requirements:

1. Each jurisdiction shall prohibit the landing of herring when the management area sub-ACL has been attained.
2. Vessels are prohibited from landing more than 2,000 lbs. of Atlantic herring from Area 1A when the fishery is closed, during a 'day out' or during spawning closures.
3. Jurisdictions will close the directed fishery when 92% of a management area's sub-ACL is projected to be harvested.
4. Each jurisdiction must enact spawning area restrictions that are at least as restrictive as those in Section 4.2.6.
5. States adjacent to Area 1A will implement days out restrictions as identified in Section 4.2.4.1.
6. States are required to implement weekly reporting by all non-federally permitted fishermen on Atlantic herring (including mobile and fixed gear).
7. Any herring vessel transiting a management area that is under a herring spawning closure or a 'day out' must have all of its fishing gear stowed.
8. The harvest of herring for the primary purpose of reduction to meal or meal-like product is prohibited.
9. Internal Water Processing operations will be prohibited from processing herring caught in all state waters.

VII. PRT Recommendations

State Compliance

All states with a declared interest in the management of Atlantic herring have submitted compliance reports and have regulations in place that meet the requirements of the Interstate Fisheries Management Plan for Atlantic Herring as described in Amendment 3.

Request for *De Minimis* Status

A state may be eligible for *de minimis* status if its combined average of the last three years of commercial landings (by weight) constitute less than one percent of the coastwide commercial landings for the same three-year period.

[1] https://repository.library.noaa.gov/view/noaa/22729

[2] http://www.asmfc.org/uploads/file/63ceca552022AtlHerring_PeerReviewandManagementTrackAssessment.pdf

New York has requested *de minimis* status and meets the requirements. The state's 2021-2023 combined average commercial landings is less than 0.07%, which is less than 1% of coastwide commercial landings during the same three-year period.

Research and Monitoring Recommendations

The PRT recognizes the decreasing capacity for fishery-dependent data collection over the past few years, due largely to limited resources and low quota and catch levels. Although quotas increased in 2023, it is important for the Board to recognize this challenge and discuss how to move forward with sampling the fishery in a low capacity scenario.

One challenge for fishery-dependent data collection is the current lack of funding to continue the Maine Department of Marine Resources' (ME DMR) Atlantic herring portside commercial sampling program, which is currently funded through mid-2025. ME DMR has been sampling the commercial herring fishery since the 1960s, and the sampling includes age, length, maturity, sex, and other important biological attributes. Without funding, ME DMR would be unable to collect biological samples out of state and unable to conduct portside bycatch sampling. These samples have been and are being used in management for the inshore spawning closures and for documenting the effect of management action on the size and age of fish harvested. The commercial sampling program is a vital data source for both the current ASAP and future WHAM assessment models, both of which are fundamentally age structured. Without this sampling program, Atlantic herring would likely revert to an index, or biomass-based method of assessment, increasing uncertainty. If commercial sampling were halted, it would negatively impact the ability to effectively monitor the rebuilding program for Atlantic herring and severely curtail the ability to provide projections for sustainable quota development using the current harvest control rule.

The PRT recommends the Board discuss potential long-term funding solutions for the ME DMR portside sampling program. The Board previously identified two potential approaches: (1) states can collect samples themselves and send to Maine DMR for processing, or (2) secure alternative funding source(s) for DMR data collection.

Another challenge is the insufficient number of samples to inform the three Area 1A spawning closures in recent years, which likely due to the timing of Area 1A fishery operation. The Area 1A fishery has been at zero landing days from mid-late August through September due to the June-September seasonal allocation being reached in early-mid August. Spawning in Area 1A typically occurs in late summer/early fall during this break in directed harvest, and along with reduced effort from small mesh bottom trawl vessels, these factors have contributed to very few samples available to inform spawning closures.

The PRT recommends the Atlantic Herring Technical Committee review the current spawning closure protocol in Addendum II and determine if there are any concerns with prolonged periods of insufficient samples and implementation of the default closure dates. The PRT notes that Addendum II was developed before the quotas drastically decreased, but also recognizes that during Addendum II development, this scenario of insufficient samples was

discussed. While the current default closure dates may already reflect a conservative approach, it may be beneficial for the Technical Committee to review the spawning closure protocol at this point.

The PRT will continue to discuss survey data submitted by states each year, and encourages states to note year-over-year changes and observations in the monitoring sections of the compliance reports.

In addition to the research recommendations outlined in the 2018 benchmark stock assessment and 2022 stock assessment update, the Plan Development Team (PDT) has previously recommended the following categorized research recommendations, which have been included in past FMP Review Reports. The PRT noted these recommendations are still relevant but are not specific to an immediate management or compliance concern, and therefore do not require Board action in 2024, besides Board consideration of funding for ME DMR's portside sampling program as noted above. The PRT recommends the TC review these research recommendations following the 2025 benchmark stock assessment.

<u>Fishery-Dependent Priorities</u>

High

- Investigate bycatch and discards in the directed herring fishery through both at-sea and portside sampling.
- Continue commercial catch sampling of Atlantic herring fisheries according to ACCSP protocols.

<u>Fishery-Independent Priorities</u>

High

- Expand monitoring of spawning components.

Low

- Continue to utilize the inshore and offshore hydroacoustic and trawl surveys to provide a fishery-independent estimation of stock sizes. Collaborative work between NMFS, DFO, state agencies, and the herring industry on acoustic surveys for herring should continue to be encouraged.

<u>Modeling / Quantitative Priorities</u>

Moderate

- Conduct simulation studies to evaluate ways in which various time series can be evaluated and folded into the assessment model.
- Develop new approaches to estimating recruitment (i.e., juvenile abundance) from fishery-independent data.
- Examine the possible effects of density dependence (e.g., reduced growth rates at high population size) on parameter estimates used in assessments.

Low

- Conduct a retrospective analysis of herring larval and assessment data to determine the role larval data plays in anticipating stock collapse and as a tuning index in the age structured assessment.
- Investigate the M rate assumed for all ages, the use of CPUE tuning indices, and the use of NEFSC fall bottom trawl survey tuning indices in the analytical assessment of herring.

Life History, Biological, and Habitat Priorities

Moderate

- Continue tagging and morphometric studies to explore uncertainties in stock structure and the impacts of harvest mortality on different components of the stock. Although tagging studies may be problematic for assessing survivorship for a species like herring, they may be helpful in identifying the stock components and the proportion of these components taken in the fishery on a seasonal basis.

Low

- Research depth preferences of herring.

Management, Law Enforcement, and Socioeconomic Priorities

High

- Continue to organize annual US-Canadian workshops to coordinate stock assessment activities and optimize cooperation in management approaches between the two countries.

Moderate

- Develop a strategy for assessing individual spawning components to better manage heavily exploited portion(s) of the stock complex, particularly the Gulf of Maine inshore spawning component.
- Develop socioeconomic analyses appropriate to the determination of optimum yield.
    - The PRT recognized the ongoing work of the ASMFC Committee on Economics and Social Sciences (CESS) and ASMFC Risk and Uncertainty Workgroup to incorporate socioeconomic criteria into the Risk and Uncertainty Decision Tool (currently under development). The PRT recommends tracking the development of this tool and considering future application to Atlantic herring management.

Low

- Develop economic analyses necessary to evaluate the costs and benefits associated with different segments of the industry.
    - The PRT specified that costs and benefits of management decisions on different segments (e.g. gear types) of the herring industry and on other fisheries that rely on herring as bait should be evaluated. The PRT noted the importance of considering the state-level economic data that would be required to conduct these analyses for non-federal fishing activity.

IX. References

Miller, T., Y. Chen, Y. Jiao, and J. Wiedenmann. 2022. 2022 Management Track Peer Review Panel Report. NOAA Fisheries. 22p.

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NEFSC. 2024. Atlantic Herring 2024 Assessment Update Report (draft working paper for peer review only). US Dept Commer; 9p.

Wilberg, M., E. Houde, and F. Serchuk. 2020. 2020 Management Track Peer Review Committee Report. NOAA Fisheries. 17p.

X. Figures

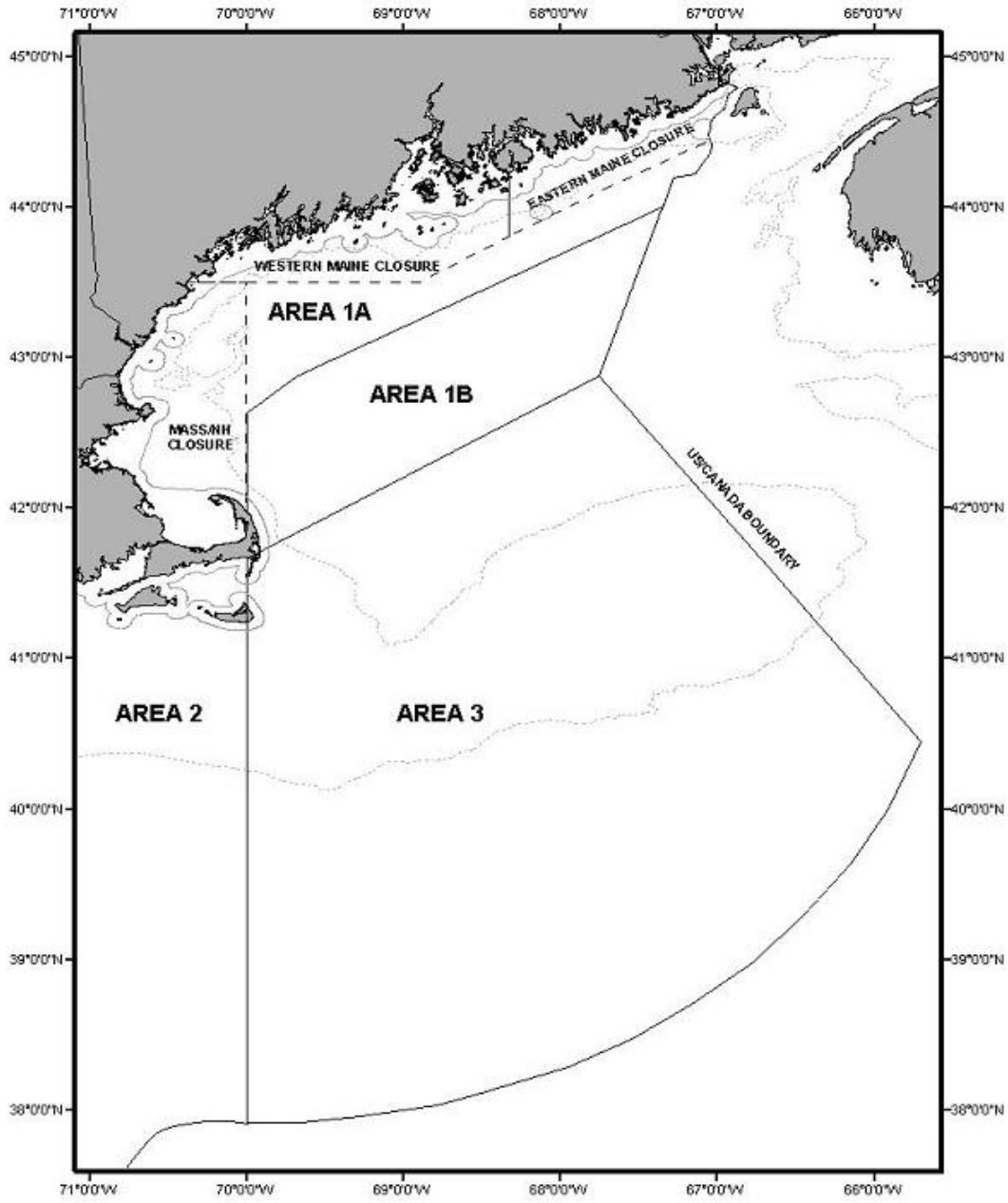

Figure 1. Map of Atlantic herring management areas with boundaries and the three spawning areas are within Area 1A, the inshore region of Gulf of Maine.

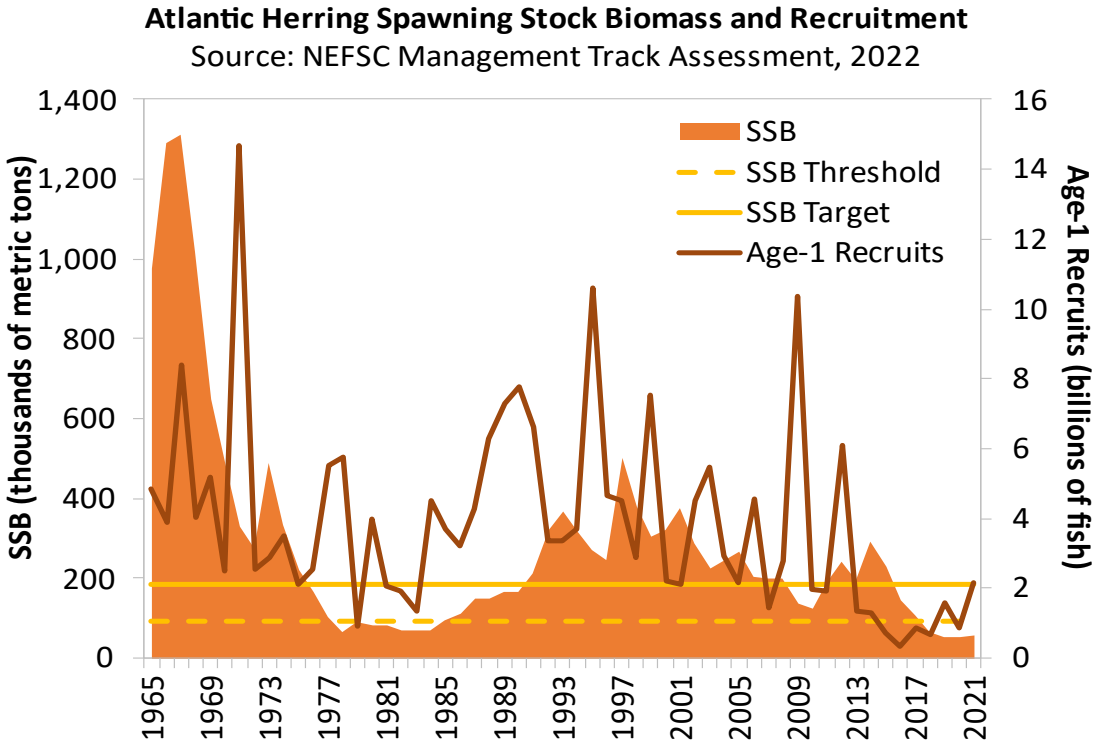

Figure 2. To Be Updated with 2024 Assessment Results. Spawning stock biomass and recruitment from 1965 to 2021. Source: 2022 Management Track Assessment

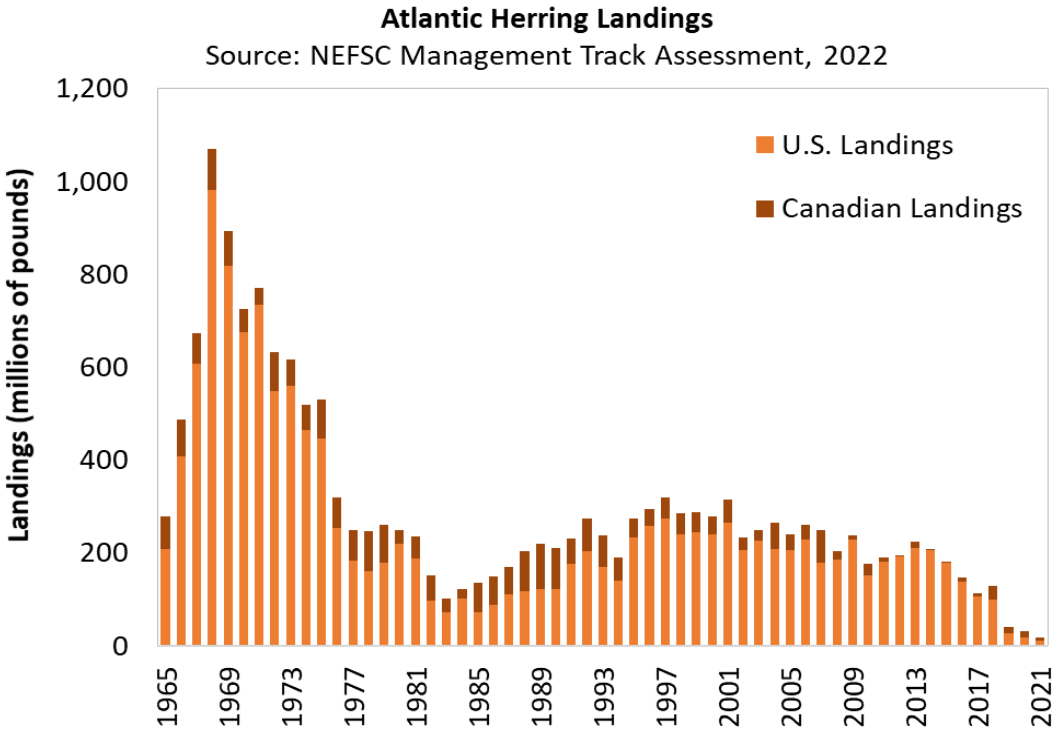

Figure 3. To Be Updated with 2024 Assessment Results. U.S. and Canadian commercial landings from 1965 to 2021. Source: 2022 Management Track Assessment

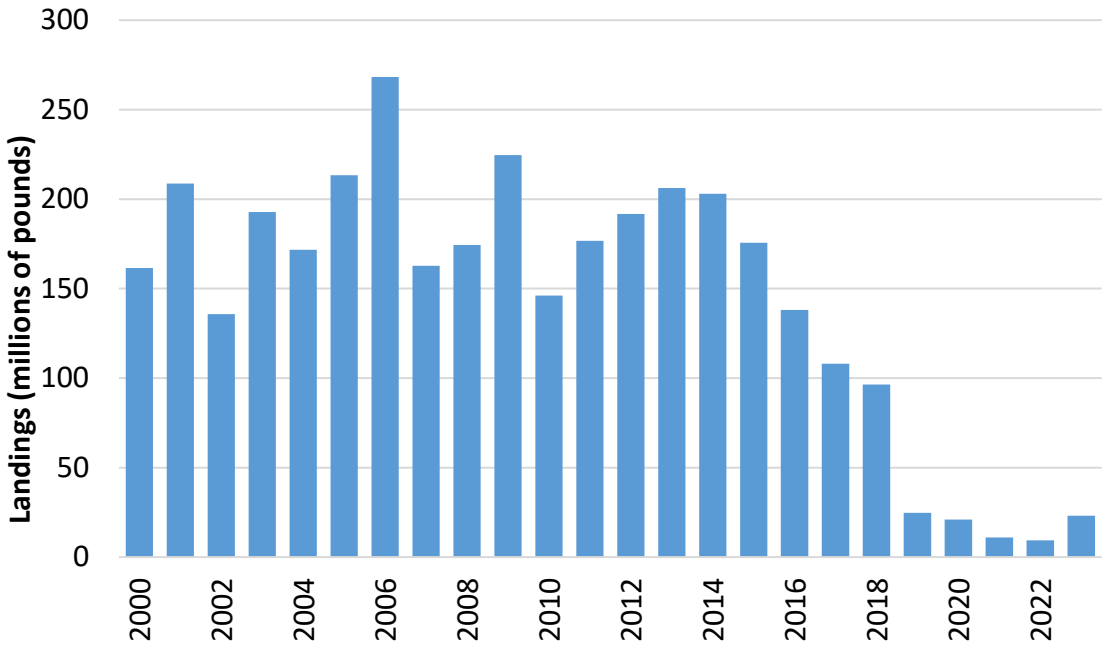

Figure 4. Commercial Atlantic herring landings (non-confidential landings only) by the U.S. fleet from 2000-2023. Source: ACCSP Data Warehouse for 2000-2022; State Compliance Reports for 2023.

Appendix. Days Out and Spawning Closure Notices from 2023

2023 days out and spawning closure notices are enclosed in the following pages.

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

MEMORANDUM

TO: **Atlantic Herring Management Board, Atlantic Herring Technical Committee, Atlantic Herring Advisory Panel, Interested Parties**

FROM: **Toni Kerns, Fisheries Policy Director** TMK

DATE: **April 27, 2023**

SUBJECT: **Area 1A 2023 Effort Controls for June through September**

The Atlantic States Marine Fisheries Commission's Atlantic Herring Management Board members from Maine, New Hampshire, and Massachusetts set the effort control measures for the 2023 Area 1A (inshore Gulf of Maine) fishery for June 1 – September 30.

The Area 1A sub-annual catch limit (ACL) is 3,050 metric tons (mt) after adjusting for the overage from 2021, the 30 mt fixed gear set-aside, and the fact that Area 1A closes at 92% of the sub-ACL. In October 2022, the Board established the following seasonal allocations for the 2023 Area 1A sub-ACL: 72.8% available for season 1 (June 1 – September 30) and 27.2% available for season 2 (October 1 – December 31).

2023 Atlantic Herring 1A Quota (in mt) Allocation by Season

Season	1A Quota
1. June 1-September 30	2,220 mt
2. October 1-December 31	830 mt

Days Out of the Fishery

- Landing days will be set at zero (0) from June 1 until the start of the fishery on July 16 at 6:00 p.m.
- Landing days begin on Sunday of each week at 6:00 p.m. starting July 16.
- Vessels with an Atlantic herring Limited Access Category A permit that have declared into the Area 1A fishery may land herring five (5) consecutive days a week. The week shall begin at 6:00 p.m. on Sundays and conclude at 6:00 p.m. on Fridays. One landing per 24 hour period. Vessels are prohibited from landing or possessing herring caught from Area 1A during a day out of the fishery.
- Small mesh bottom trawl vessels with an Atlantic herring Limited Access Category C or Open Access D permit that have declared into the fishery may land herring six (6) consecutive days a week. The week shall begin at 6:00 p.m. on Sundays and conclude at 6:00 p.m. on Saturdays.

Weekly Landing Limit

- Vessels with an Atlantic herring Category A permit may harvest up to 320,000 lbs. (8 trucks) per harvester vessel, per week starting July 16.

At-Sea Transfer and Carrier Restrictions

The following applies to harvester vessels with an Atlantic herring Category A permit and carrier vessels landing herring caught in Area 1A to a Maine, New Hampshire, or Massachusetts port.

- A harvester vessel may transfer herring at-sea to another harvester vessel.
- A harvester vessel may not make any at-sea transfers to a carrier vessel.
- Carrier vessels may not receive at-sea transfers from a harvester vessel.

Fishermen are prohibited from landing more than 2,000 pounds of Atlantic herring per trip from Area 1A until July 16, 2023 at 6:00 p.m. Landings will be closely monitored and the fishery will be adjusted to zero landing days when the season 1 quota is projected to be reached.

Please contact Emilie Franke, Fishery Management Plan Coordinator, at efranke@asmfc.org or 703.842.0740 for more information.

Motions

Move to implement for the 2023 Area 1A Season 1:

- **For Category A vessels, 5 landing days and an 8 truck (320,000 pound) weekly landing limit**
- **Zero landing days before Sunday, July 16 at 6:00pm**
- **Allow harvester-to-harvester transfers but not allow transfers to carriers**
- **For Category C/D SMBT vessels, 6 landing days**

Motion by Ms. Ware, second by Ms. Griffin. Motion passes by consent without objection.

Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **Atlantic Herring Management Board, Technical Committee, Advisory Panel, Interested Parties**

FROM: **Toni Kerns, Fisheries Policy Director** TMK

DATE: **August 21, 2023**

SUBJECT: **Atlantic Herring Eastern Maine Spawning Closure in Effect Starting August 28, 2023 through October 8, 2023; Area 1A Days Out Meeting on September 14**

The Atlantic herring Area 1A (inshore Gulf of Maine) fishery regulations include seasonal spawning closures for portions of state and federal waters in Eastern Maine, Western Maine and Massachusetts/New Hampshire. The Commission's Atlantic Herring Management Board approved a forecasting method that relies upon at least three samples, each containing at least 25 female herring in gonadal stages III-V, to trigger a spawning closure. However, if sufficient samples are not available then closures will begin on predetermined dates.

There are currently no samples from the Eastern Maine spawning area to determine spawning condition. Therefore, per the Addendum II default closure dates, the Eastern Maine spawning area will be closed starting at 12:01 a.m. on August 28, 2023 extending through 11:59 p.m. on October 8, 2023. The Eastern Maine spawning area includes all waters bounded by the following coordinates:

Maine coast 68° 20' W
43° 48' N 68° 20' W
44° 25' N 67° 03' W
North along the US/Canada border

Vessels in the directed Atlantic herring fishery cannot take, land or possess Atlantic herring caught within the Eastern Maine spawning area during this time. The incidental bycatch allowance of up to 2,000 pounds of Atlantic herring per trip per day applies to vessels in non-directed fisheries that are fishing within the Eastern Maine spawning area. In addition, all vessels traveling through the Eastern Maine spawning area must have all seine and mid-water trawl gear stowed.

Upcoming Days Out Meeting
In addition, Atlantic Herring Management Board members from the States of Maine, New Hampshire and the Commonwealth of Massachusetts will meet via webinar on September 14, 2023 from 10:30 a.m. to 12:00 p.m., to discuss Season 2 (October 1 – December 31) days out measures for the 2023 Area 1A fishery (inshore Gulf of Maine). Days out measures include consecutive landings days for Season 2. The webinar and call information are included below:

Atlantic Herring Days Out Meeting

September 14, 2023

10:30 a.m. – 12:00 p.m.

You can join the meeting from your computer, tablet or smartphone at the following link: https://meet.goto.com/738566485. If you are new to GoToMeeting, you can download the app ahead of time (click here) and be ready before the meeting starts. **For audio, the meeting will be using the computer voice over internet (VoIP)**, but if you are joining the webinar from your phone only, you can dial in at **+1 (872) 240-3212** and enter access code **738-566-485** when prompted. The webinar will start at 10:15 a.m., 15 minutes early, to troubleshoot audio as necessary.

The 2023 Area 1A sub-annual catch limit (sub-ACL) is 3,345 metric tons (mt). The initial specification for the 2023 Area 1A sub-ACL of 3,592 mt decreased by 247 mt due to the catch overage in Area 1A in 2021. After adjusting for the 30 mt fixed gear set-aside and the 8% buffer (Area 1A closes at 92% of the sub-ACL), the Area 1A sub-ACL is 3,050 mt. There is no research-set-aside for 2023.

The Board established the following seasonal allocations for the 2023 Area 1A sub-ACL: 72.8% available from June 1 – September 30 and 27.2% available from October 1 – December 31.

Please contact Caitlin Starks, Fishery Management Plan Coordinator, at 703.842.0740 or cstarks@asmfc.org for more information.

Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **Atlantic Herring Management Board, Advisory Panel, Technical Committee, Interested Parties**

FROM: **Toni Kerns, Fisheries Policy Director** TMK

DATE: **August 25, 2023**

SUBJECT: **Atlantic Herring Area 1A Fishery Moves to Zero Landing Days for Season 1 on August 26, 2023 at 12:01 a.m.**

The Area 1A (inshore Gulf of Maine) Atlantic herring fishery is projected to have harvested 92% of the Season 1 (June 1 – September 30) allocation by August 25, 2023. Beginning at 12:01 a.m. on Saturday, August 26, 2023, the Area 1A fishery will move to zero landing days through September 30, 2023, as specified in Amendment 3 to the Interstate Fishery Management Plan for Atlantic Herring.

Vessels participating in other fisheries may not possess more than 2,000 pounds of Atlantic herring per trip per day harvested from Area 1A. In addition, all vessels traveling through Area 1A must have all seine and mid-water trawl gear stowed.

Atlantic Herring Management Board members from Maine, New Hampshire, and Massachusetts are expected to reconvene in September via conference call to set effort controls for the 2023 Area 1A fishery for Season 2 (October 1 – December 31). An announcement will be issued once the meeting is scheduled.

For more information, please contact Caitlin Starks, Fishery Management Plan Coordinator, at 703.842.0740 or cstarks@asmfc.org.

Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **Atlantic Herring Management Board, Atlantic Herring Technical Committee, Atlantic Herring Advisory Panel, Interested Parties**

FROM: **Toni Kerns, Fisheries Policy Director** TMK

DATE: **September 15, 2023**

SUBJECT: **Western Maine and Massachusetts/New Hampshire Spawning Closures in Effect Starting September 23, 2023 through November 3, 2023; Days Out Measures for Season 2 of the 2023 Atlantic Herring Area 1A Fishery**

The Atlantic herring Area 1A fishery regulations include seasonal spawning closures for portions of state and federal waters in Eastern Maine, Western Maine and Massachusetts/New Hampshire. The Commission's Atlantic Herring Management Board approved a forecasting method that relies upon at least three samples, each containing at least 25 female herring in gonadal stages III-V, to trigger a spawning closure. However, if sufficient samples are not available then closures will begin on predetermined dates.

There are currently insufficient from both the Western Maine spawning area and the Massachusetts/New Hampshire spawning area. Therefore, per Addendum II default closure dates, the Western Maine and Massachusetts/New Hampshire spawning areas will be closed starting at 12:01 a.m. on September 23, 2023 extending through 11:59 p.m. on November 3, 2023. The Western Maine spawning area includes all waters bounded by the following coordinates:

43° 30' N Maine coast
43° 30' N 68° 54.5' W
43° 48' N 68° 20' W
North to Maine coast at 68° 20' W

The Massachusetts/New Hampshire spawning area includes all waters bounded by the Massachusetts, New Hampshire and Maine coasts, and 43° 30' N and 70° 00' W.

Vessels in the directed Atlantic herring fishery cannot take, land or possess Atlantic herring caught in either the Western Maine or Massachusetts/New Hampshire spawning areas during this time and must have all fishing gear stowed when transiting through the area. The incidental bycatch allowance of up to 2,000 pounds of Atlantic herring per trip per day applies to vessels in non-directed fisheries that are fishing within the Western Maine or Massachusetts/ New Hampshire spawning areas.

Days Out Measures for Season 2 of the 2023 Atlantic Herring Area 1A Fishery

The Atlantic States Marine Fisheries Commission's Atlantic Herring Management Board members from Maine, New Hampshire, and Massachusetts met September 14 via webinar to set effort control measures for the 2023 Area 1A fishery for Season 2 (October 1 – December 31). The Season 2 quota is approximately 955 metric tons (mt), which is 27.2% of the Area 1A sub-annual catch limit (ACL) after adjusting for the 30 mt fixed gear set-aside, a slight underage from Season 1, and an 8% buffer (since the Area 1A closes at 92% of the sub-ACL). This does not take into account the possible reallocation of 1,000 mt to the Area 1A sub-ACL based on catch information from the Canadian New Brunswick weir fishery.

The days out measures for Season 2 are as follows:

- Landing days will be set at zero (0) from October 1 to 9.
- The fishery will move to two (2) landing days from 12:01 am October 10 to 11:59 p.m. October 11.
- The fishery will move to zero (0) landing days from October 12 to November 4.
- The fishery will move to four (4) consecutive landing days per week starting on November 5 at 6:00 p.m. until 92% of the Area 1A sub-ACL is caught. Landing days are Sundays from 6:00 p.m. through Thursdays at 5:59 p.m., weekly.

The fishery will only move to four (4) landing days on November 5 at 6 pm if there is remaining Season 2 quota at that time. Quota availability will depend on how much is landed from October 10-11 and if the 1,000 mt reallocation from the Canadian weir fishery to the Area 1A sub-ACL occurs.

While landing days are set at zero (0), harvesters are prohibited from landing more than 2,000 pounds of Atlantic herring per trip from Area 1A during Season 2.

Please contact Caitlin Starks, Fishery Management Plan Coordinator, at cstarks@asmfc.org or 703.842.0740 for more information.

Days Out Meeting Motions (September 14, 2023)

Move to set the following schedule for Area 1A landing days in Trimester 3:

- **Zero landing days from October 1- 9**
- **Two landing days from 12:01am October 10 to 11:59pm October 11**
- **Zero landing days from October 12 – November 4**
- **Starting on November 5 at 6pm, move to 4 landing days per week until 92% of the Area 1A sub-ACL is caught**

Motion by Ms. Ware.
Motion passed by consent.

Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **Atlantic Herring Management Board, Technical Committee, Advisory Panel, Interested Parties**

FROM: **Toni Kerns, Policy Director** TMK

DATE: **November 6, 2023**

SUBJECT: **Directed Atlantic Herring Fishery Closure for Management Area 1A**

NOAA Fisheries and the states of Maine and New Hampshire, and the Commonwealth of Massachusetts project the Atlantic herring fishery will catch 92% of the Area 1A sub-ACL by November 6, 2023. The Area 1A directed fishery will close effective 6:00 p.m. on November 6, 2023 and remain closed until further notice. Vessels that have entered port before 6:00 p.m. on November 6, 2023 may land and sell, from that trip, greater than 2,000 pounds of herring from Area 1A.

During a closure, vessels participating in other fisheries may retain and land an incidental catch of herring that does not exceed 2,000 pounds per trip or calendar day. In addition, directed herring vessels traveling through Area 1A must have all fishing gear stowed.

In accordance with the Amendment 3 to the Interstate Fishery Management Plan for Atlantic Herring, the fixed gear set-aside of 30 metric tons will continue to be available to fixed gear fishermen operating in Area 1A west of Cutler, Maine through December 31, 2023.

Please contact Emilie Franke, Fishery Management Plan Coordinator, at 703.842.0716 or efranke@asmfc.org for more information.

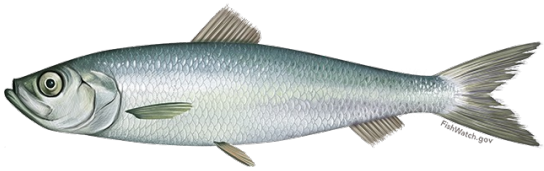
New England Fishery Management Council

FOR IMMEDIATE RELEASE
June 26, 2024

PRESS CONTACT: Janice Plante
(607) 592-4817, jplante@nefmc.org

Council Receives Herring Amendment 10 Scoping Summary and Provides Guidance; Approves 2024-2028 Research Priorities

The New England Fishery Management Council discussed two issues related to Atlantic herring when it met in Freeport, Maine for its June 2024 meeting. It also received an update from its On-Demand Fishing Gear Conflict Working Group and approved a list of 2024-2028 research priorities and data needs.



Atlantic Herring Amendment 10: The Council conducted six scoping meetings in March and April 2024 on Amendment 10 to the Atlantic Herring Fishery Management Plan.

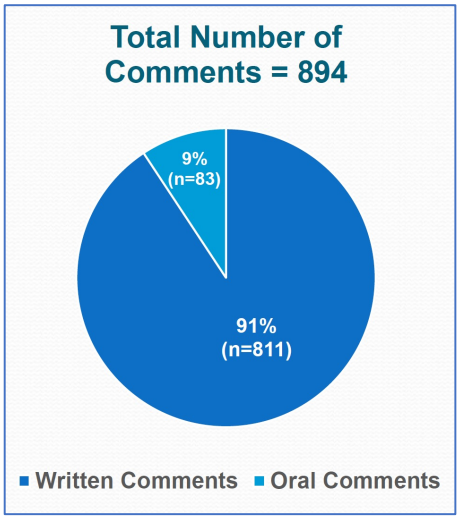
This amendment proposes to (1) minimize user conflicts, contribute to optimum yield, and support rebuilding of Atlantic herring; and (2) enhance river herring and shad avoidance and catch reduction.

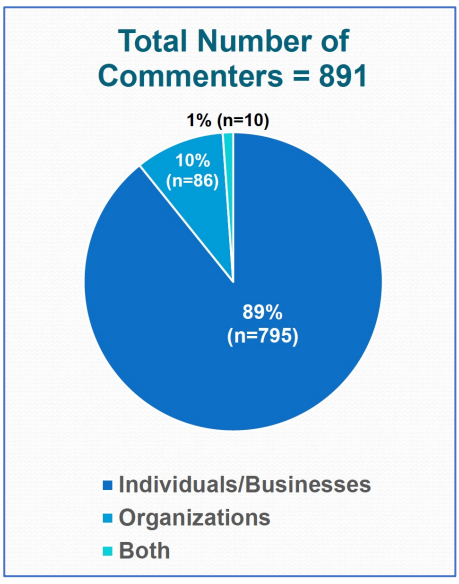
The Council received a comprehensive overview of the scoping process, which covered: the number of attendees at in-person and webinar scoping meetings; the number commenters at each meeting; a breakdown of commenters by affiliation or home state; the number of written comments received; general sentiments, major themes, and perceptions of current problems expressed during the meetings; desired outcomes from Amendment 10; the types of potential measures the action could contain; suggested data sources; and more.

Many of the comments focused on river herring and shad, emphasizing the role these species play in the ecosystem and their social and economic importance to many communities.

- The compiled summary of all oral and written comments in available in this document.

After hearing the summary, the Council then provided additional guidance to its Herring Committee on next steps. The Council did so





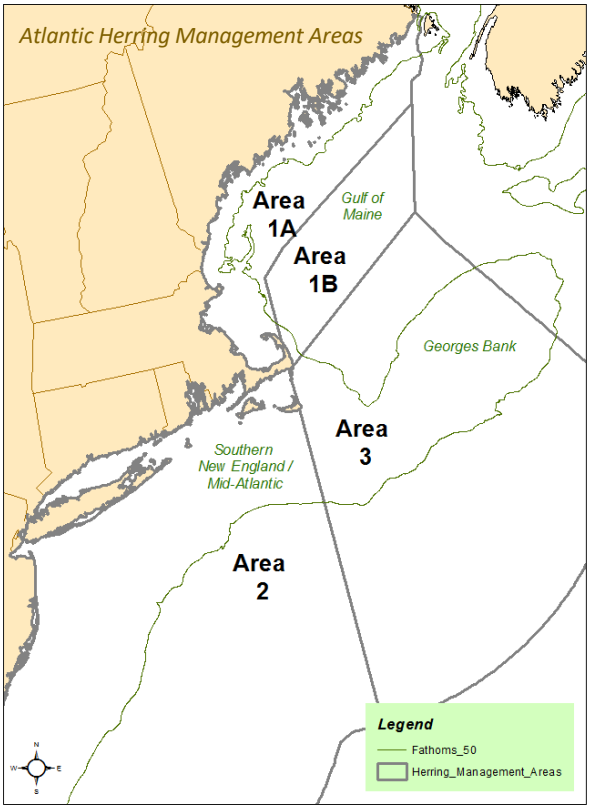
New England Fishery Management Council

via three motions to direct the Herring Plan Development Team (PDT) on where it should focus its efforts down the road. The tasking specified that the Herring PDT:

- Assess data availability and analyze and develop alternatives for Amendment 10 that implement time/area closures for portions of Atlantic Herring Management Areas 2 and 3 where aggregations of river herring and shad overlap with the directed Atlantic herring fishery;
- Assess data availability and analyze and develop alternatives for Amendment 10 that implement revisions to the basis of river herring and shad catch cap values that: (1) are reflective of regional river herring/shad abundance, and (2) scale with ceilings and floors to changes in Atlantic herring abundance and/or regional river herring abundance; and
- Analyze and develop recommendations for implementing improvements to the accuracy and precision of river herring and shad catch estimates in the directed Atlantic herring fishery.

The PDT will work on Amendment 10 this summer and fall as time allows, but its priority and primary focus will be developing fishery specifications for 2025-2027.

The Atlantic States Marine Fisheries Commission (ASMFC) is conducting a River Herring Benchmark Stock Assessment. The results will be presented at the Commission's August 2024 meeting. Above, two species of river herring: alewife (top) and blueback herring (bottom). – NOAA Fisheries graphics



Atlantic Herring Specifications for Fishing Years 2025-2027: The Council received a brief overview of the timeline to establish specifications for the next three herring fishing years. The resulting catch limits will hinge in large part on the new Atlantic Herring Management Track Stock Assessment, which was first discussed during the 2024 Assessment Oversight Panel (AOP) Meeting for June Stocks.

The AOP categorized this assessment as Level 1, which means the results will be delivered directly to the Council's Herring PDT and Scientific and Statistical Committee (SSC), as well as the ASMFC's Herring Technical Committee.

The Council's SSC, Herring Committee, and Herring Advisory Panel (AP) will discuss the results at meetings later this summer. The SSC will develop overfishing limit (OFL) and acceptable biological catch (ABC) recommendations for the 2025-2027 fishing years as part of the process. Final action is planned for the Council's September 2024 meeting in Gloucester, Massachusetts. (More news on next page.)

New England Fishery Management Council

2024-2028 Council Research Priorities and Data Needs

The Council approved a list of 2024-2028 research priorities and data needs to support its work over the next several years. The Magnuson-Stevens Fishery Conservation and Management Act requires all fishery management councils, in conjunction with their scientific and statistical committees (SSCs), to establish five-year research priorities for "fisheries, fishery interactions, habitats, and other areas of research that are necessary for management purposes."

The Council last approved research priorities in 2022. For this current update, the Council's various committees, working with advice from their respective plan development teams and advisory panels, reviewed the previous 2022-2026 list and suggested additions, deletions, and modifications for 2024-2028. The revisions then were reviewed by the Council's SSC, which provided feedback and additional edits.

Each priority was ranked as: (1) **urgent** for research that's **essential** for compliance with federal requirements; (2) **important** to reach a **near-term** or ongoing management goal; or (3) **strategic** to address **future needs** related to Council actions.

The Council discussed and resolved outstanding issues. It then approved the draft list containing 110 research priorities for the new five-year cycle. Once ready, a final list will be posted on the Council's website in the sidebar here under Quick Documents. The document also will be submitted to the Northeast Fisheries Science Center and the Greater Atlantic Regional Office of NOAA Fisheries for consideration in developing research priorities and budgets.

AT-A-GLANCE: Here are snapshots of a few of the **"urgent (essential)"** research priorities identified by the Council. Note that some of this work is already underway, and many more urgent priorities are outlined in the 2024-2028 research priorities and data needs document.

SCALLOPS – Urgent (essential): Scallop surveys to estimate abundance and biomass. Research to evaluate the performance of scallop rotational areas. Research on the impacts of fishing in areas with high densities of scallops, including scenarios with heavy fishing pressure.

New England Fishery Management Council

ATLANTIC HERRING/SHAD AND RIVER HERRING – Urgent (essential): Investigate stock definition, stock movements, mixing, and migration for Atlantic herring. Further investigate recent low recruitment of Atlantic herring and possible drivers. Enhance herring fishery sampling (portside, at-sea observers, and monitors) to track spawning activity on Georges Bank.

MONKFISH – Urgent (essential): Monkfish life history work focusing on age and growth and recruitment, longevity, reproduction, natural mortality, and diet composition, including monkfish tagging and telemetry studies.

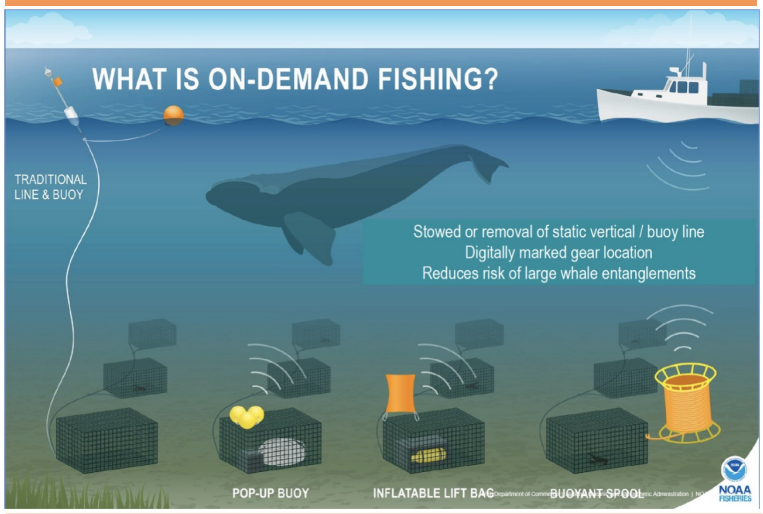
GROUNDFISH – Urgent (essential): Continue to explore uncertainties in groundfish stock assessments. Update the Northeast Fisheries Science Center's recreational bioeconomic model for cod and haddock. Investigate groundfish discard mortality rate estimates across gear types.

ASSESSMENTS, PERMITS – Urgent (essential): Develop guidance for when stock assessments are rejected and next steps, including how to set new biological reference points if an assessment/model is rejected. Investigate the feasibility of permit splitting across and within all fishery management plans. Better understand species responses to climate change.

QUESTIONS? CONTACT:

- **Atlantic Herring, River Herring/Shad:** Dr. Jamie Cournane, jcournane@nefmc.org;
- **Research Priorities and Data Needs:** Emily Bodell at ebodell@nefmc.org; and
- **On-Demand Gear Conflict Working Group:** David McCarron at dmccarron@nefmc.org

On-Demand Fishing Gear Conflict Working Group



The Council received an update from its On-Demand Fishing Gear Conflict Working Group that focused on: (1) highlighting progress across the group's terms of reference; and (2) setting the stage for the working group's July 17, 2024 meeting.

- *The Council meeting presentation is posted here.*

The working group is aiming to identify the implications of on-demand fishing gear usage on Council-managed fisheries. On-demand gear, which is often referred to as ropeless fishing gear, is a tool being testing to reduce interactions with North Atlantic right whales and other large whale species.

- *Visit the On-Demand Fishing Gear Conflict Working Group webpage.*

Council members requested additional information on the location of on-demand fishing gear projects. NOAA Fisheries has posted charts, locations, and details about on-demand gear projects at:

- *2024 Northeast Experimental On-Demand Gear System Testing Underway; and*
- *Detecting On-Demand Fishing Gear*

New England Fishery Management Council
50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492
Eric Reid, *Chair* | Cate O'Keefe, PhD, *Executive Director*

MEMORANDUM

DATE: July 23, 2024

TO: Scientific and Statistical Committee

CC: NEFMC Atlantic Herring Committee & ASMFC Atlantic Herring Management Board

FROM: NEFMC Atlantic Herring Plan Development Team & ASMFC Atlantic Herring Technical Committee

SUBJECT: **Atlantic Herring OFLs and ABCs for 2025 through 2027**

The New England Fishery Management Council's (Council) Atlantic Herring Plan Development Team (PDT) and the Atlantic States Marine Fisheries Commission's (Commission) Atlantic Herring Technical Committee (TC) held a joint meeting by webinar on July 9, 2024. The primary purpose of the meeting was to discuss the results of the 2024 management track stock assessment.

Overview

This memorandum provides information to support fishing year (FY) 2025 through 2027 overfishing (OFL) and acceptable biological catch (ABC) recommendations to the Scientific and Statistical Committee (SSC). To develop recommendations, the PDT/TC reviewed 2022 and 2024 stock assessments and peer review reports, SSC reports, PDT reports, and survey information. The PDT/TC applied the Council's ABC control rule for Atlantic herring and rebuilding plan (following Amendment 8 and Framework Adjustment 9). Appendix I provides a summary of past specifications and Appendix II includes an overview of recent trends in the fishery.

Briefly, the PDT/TC's recommendations are summarized in Table 1.

Table 1. Summary of PDT/TC recommendations for SSC consideration of 2025 through 2027 OFLs and ABCs for Atlantic herring. Fixed gear catches were assumed equal to their 10-year averages with Canadian Catch = 4,031 mt US Fixed = 16 mt and are included in these projections.

Year	OFL (mt)	ABC (mt)
2025	18,273	6,741
2026	21,659	10,885
2027	30,050	15,435

1. Management Track Stock Assessment (2024)

Trends

Fishery catches in 2021 and 2022 represent the lowest (7,865 mt and 7,866 mt, respectively) in the time series, 1965-2023 (Figure 1), with the last three years (2021-2023) of catch as the lowest on record. Overall, spawning stock biomass (SSB) generally declined from 1965 to 1980 and then generally increased from 1981 through the mid-90s. SSB declined again from 1997 to 2010, increased for several years until 2014, and has been declining since. Fishing mortality (F) was relatively stable following decreases in the 1990s, followed by a gradual increase in 2009. Since 2018, fishing mortality has declined (Figure 2). Age-1 recruitment has been below average since 2013 (Figure 2). The time series high for recruitment was in 1971. The time series low occurred in 2016, and the second lowest occurred in 2018.

Figure 1. Total catch of Atlantic herring between 1965 and 2023 by the US and Canada (NEFSC 2024).

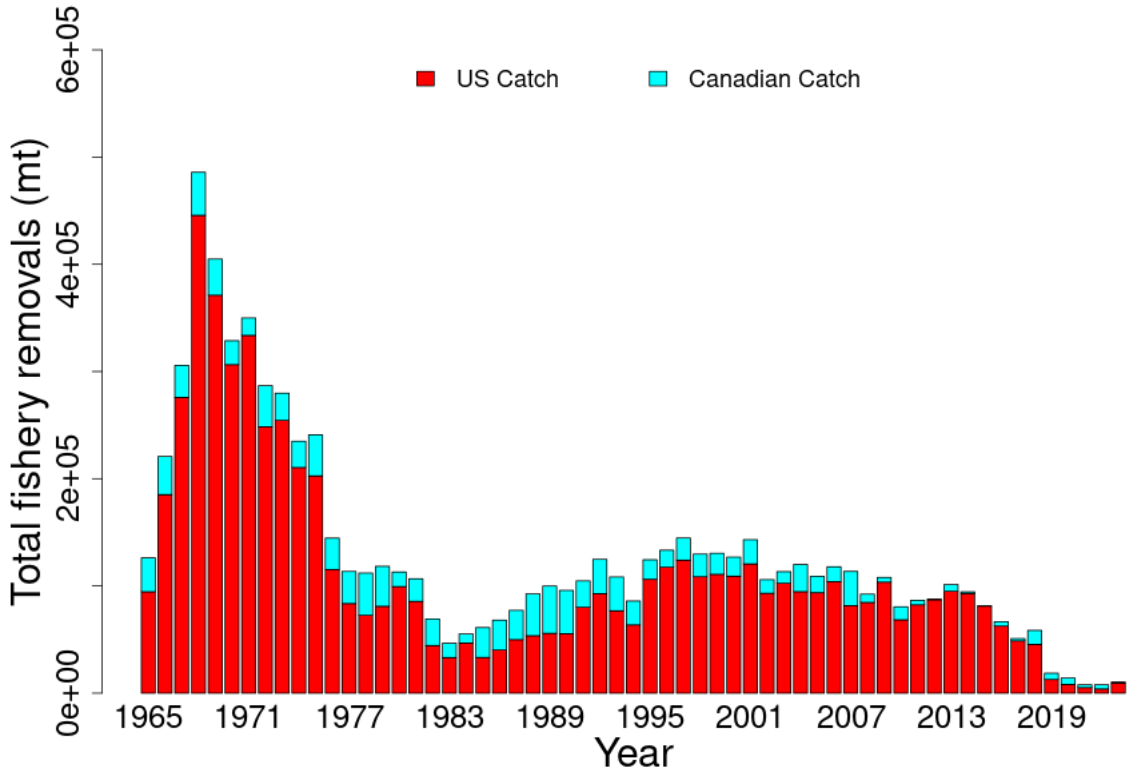
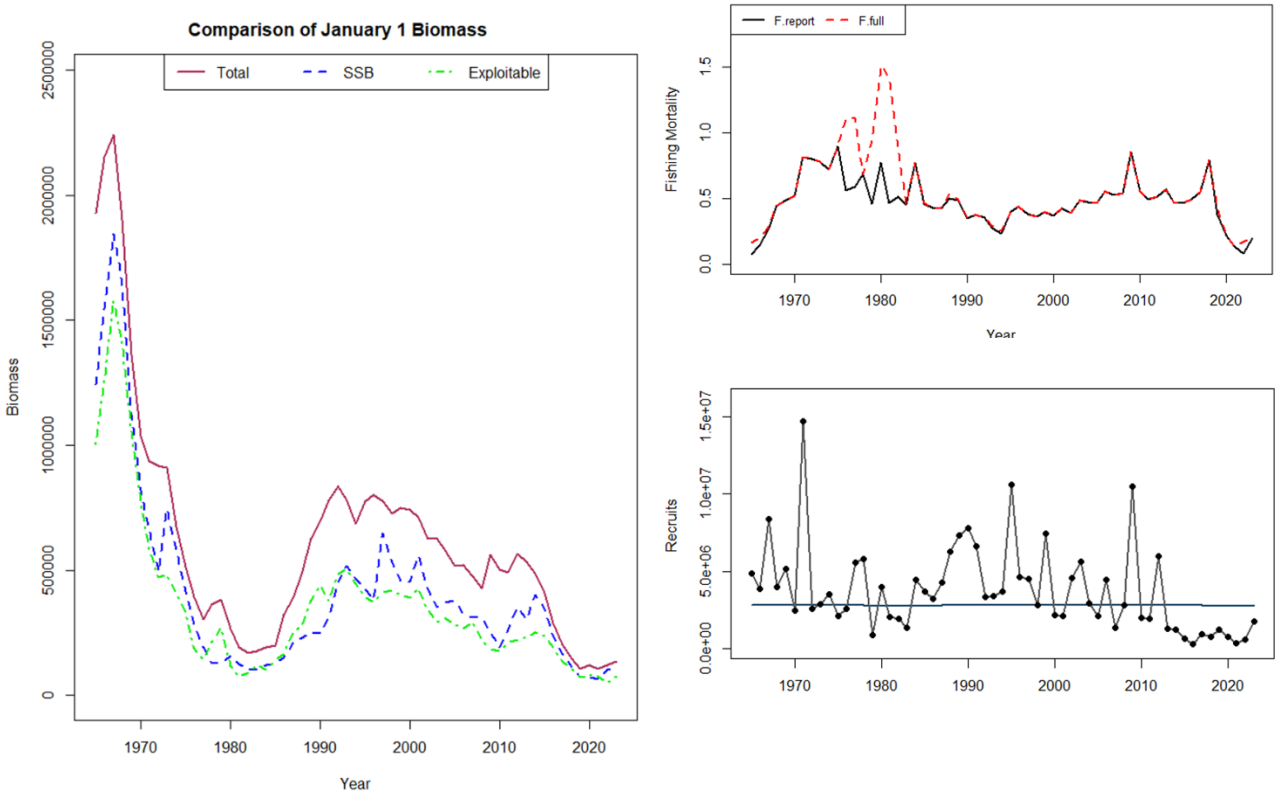


Figure 2. Atlantic herring spawning stock biomass (mt) and fishing mortality (F.report averaged over ages 7 and 8; F.full is fully selected) time series from the age structured assessment program (ASAP model) for 1965-2023. Atlantic herring annual recruit (000s) time series, 1965-2023. The horizontal line is the average over the time series (NEFSC 2024).



Stock Status

The methods used to derive biological reference points (BRPs) were unchanged from the 2022 stock assessment, in particular:

1) Long-term projections used to define BRPs accounted for mortality from the fixed gear fishery. The fixed gear fishing mortality equaled the average of the estimated fishing mortalities from the most recent 10 years.
2) The recruitment stanza used to estimate BRPs was 1992-2021 (adding two years since the 2022 assessment), based on a change-point analysis of recruits per spawner suggesting a shift in environmental conditions since 1992 affecting recruitment.

Therefore, the updated numerical values for the reference points are:

- FMSYproxy = 0.45
- SSBMSYproxy = 186,367 mt
- ½ SSBMSYproxy = 93,184, and
- MSYproxy = 78,710 mt.

Retrospective adjustments were necessary for SSB and F (SSB Mohn's rho = 0.563 and F Mohn's rho = -0.261), which reflect biomass being overestimated and fishing mortality being

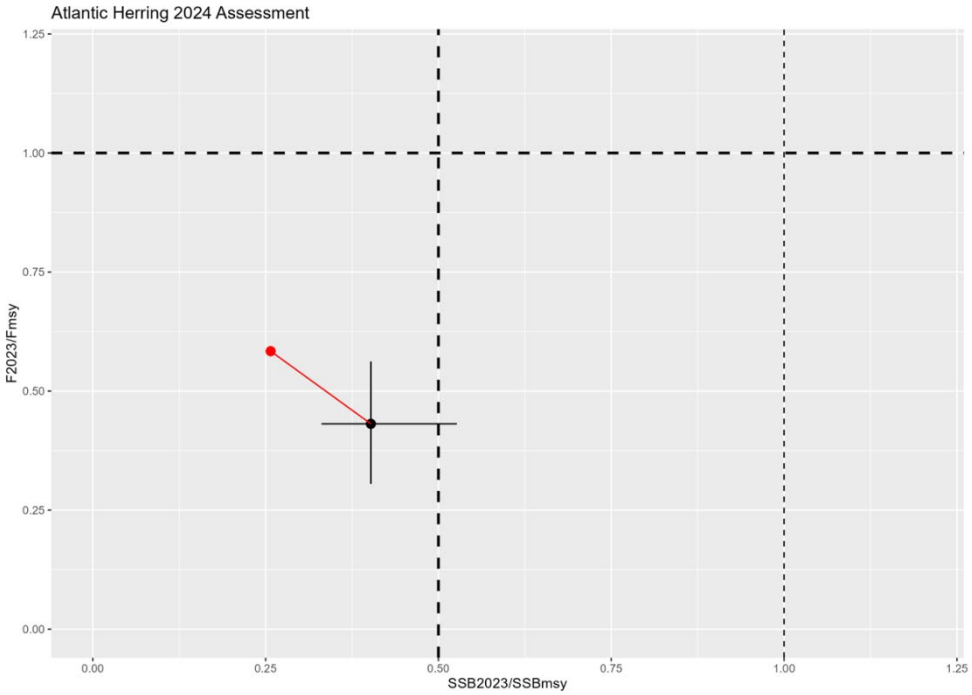
underestimated. The adjusted SSB in 2023 was estimated to be 47,955 mt which is 26% of the biomass target (SSBMSY proxy). The 2023 average fishing mortality for ages 7-8 (fully selected ages for the mobile fleet) was estimated to be 0.263, which is 58% of the overfishing threshold proxy (FMSY proxy) (Figure 3). Therefore, Atlantic herring is ***overfished but not subject to overfishing*** in 2023.

The prior values from the 2022 assessment are:

- FMSYproxy = 0.5
- SSBMSYproxy = 185,750 mt
- ½ SSBMSYproxy = 92,875, and
- MSYproxy = 68,980 mt.

Atlantic herring is in a rebuilding plan, with an initial rebuild by date of 2026. Year one of the plan is 2022 (5 years to rebuild, effective date of August 18, 2022).[1] New projections generated based on the 2022 management track assessment indicated Atlantic herring was not likely to rebuild by 2026, but it could rebuild by 2028. The interim final rule setting 2023-2025 fishery specifications revised the target rebuilding date for Atlatnic herring to 2028 to reflect the results of these updated analyses (88 FR 17397; March 23, 2023). Furthermore, the 2024 stock assessment projections extend the rebuilding period until at least 2031 (see *Section 3*). This still falls within the 10-year rebuilding period.

Figure 3. Atlantic herring stock status in 2023. The black dot indicates 2023 ratios from the model with 90% confidence bounds, and the red dot indicates the rho adjusted ratios (NEFSC 2024).



[1] See Framework Adjustment 9: https://www.nefmc.org/library/framework-9-3

Sources of Uncertainty

Projections - The projections are uncertain, especially regarding recruitment. Without other information about recruitment, the likelihood penalty has the effect of pulling the more recent recruitment estimates (i.e., 2022 and 2023) upwards towards the median. This upward increase in recent recruitments was partially offset in the projections by applying a retrospective adjustment.

Recruitment- An explanation of continued poor recruitment with a causal link has not been identified and remains an uncertainty for decades now.

Natural Mortality (M) - Natural mortality remains an uncertainty in this stock assessment. M was assumed constant in the 2024 management track, as in the 2020, 2022 management tracks and SAW 65, but M is likely to vary among time and age (size).

Stock Structure - Stock structure remains an uncertainty for this stock assessment, particularly mixing with the Nova Scotian stock. Migration can be conflated with changes in mortality or fishery selectivity and contribute to retrospective patterns.

2023 Spring Trawl Survey - Another source of uncertainty is that the 2023 spring NEFSC bottom-trawl survey did not cover the entire stock area for Atlantic herring (i.e., limited sampling on Georges Bank). Therefore, the survey was treated as missing in the model.

Previous Assessment Uncertainty

Figure 4 compares the estimates of SSB from previous assessments. Relatively large shifts in the SSB time series between assessments are likely related to structural changes in the assessment, such as shifting from a virtual population analysis (VPA) (1995-2004) to age structured assessment program (ASAP) (2005-2018), inclusion or exclusion of time-varying M, splitting the NMFS bottom trawl surveys so that the *R/V Bigelow* was its own time series (2015 to 2020), or some combination of these or other structural changes.

A summary of Mohn's rho for SSB, F and recruitment in stock assessments since the 2018 benchmark is provided in Table 2.

Figure 4. Atlantic herring historic retrospective pattern for SSB (NEFSC 2024).

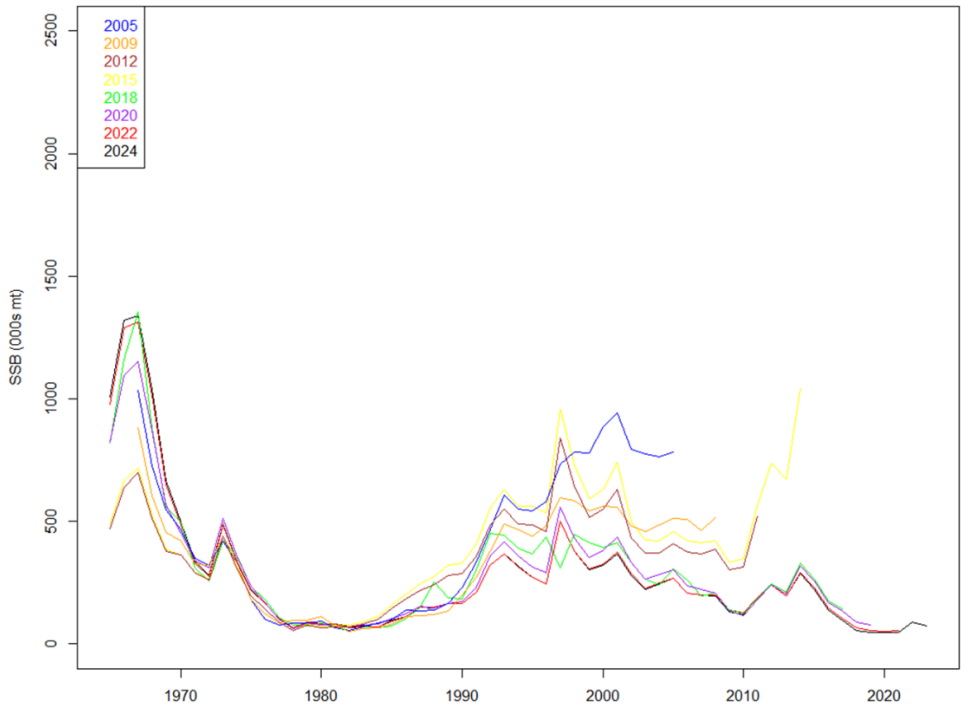


Table 2. Summary of Mohn's rho for SSB, F and recruitment in stock assessments since the 2018 benchmark for the 2020, 2022 and 2024 stock assessments and if an adjustment was applied to the terminal year (NEFSC 2020, 2022, 2024).

Stock Assessment Year	Assessment Terminal Year	SSB	F	Recruitment	Adjustment
2020	**2019**	0.052	-0.005	0.836	No, considered minor
2022	**2021**	0.447	-0.21	2.775	Yes, considered major for all
2024	**2023**	0.563	-0.261	3.15	Yes, considered major for all

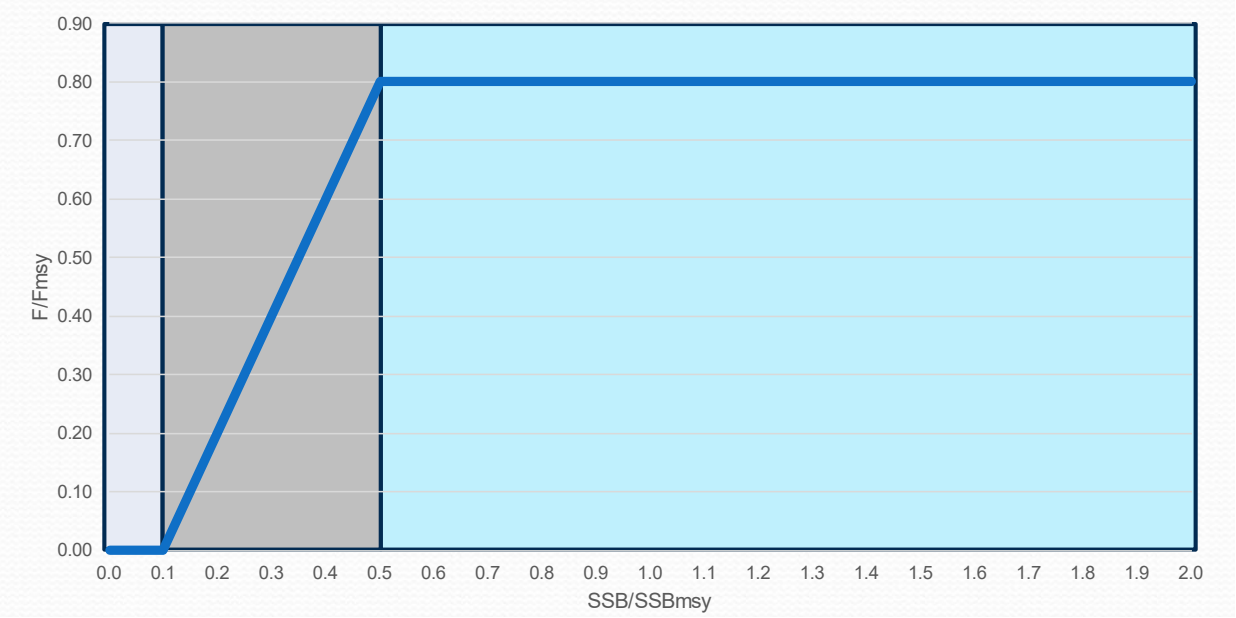
2. OFL and ABC Projections (2023-2025)

Short-term projections of future stock status were conducted (Table 3).

These projections **use the Council's ABC control rule**, applied to the mobile fleet, plus the assumed Canadian[2] and US fixed gear catches. The projections use a 10-year average for both Canadian and US fixed gear catch estimates. Canadian fixed gear catch is more variable and can swing by relatively large amounts from year to year. US fixed catch however has been relatively stable and much lower for most years, under 30 mt.

The **Council's Atlantic herring ABC control rule is biomass-based**[3]:

- When biomass is greater than 0.5 for the ratio of SSB/SSB_{MSY}, the maximum fishing mortality allowed is 80% of F_{MSY}.
- As biomass declines, fishing mortality declines linearly, and if biomass falls below 0.1 for the ratio of SSB/SSB_{MSY}, then ABC is set to zero, no fishery allocation.
- **The estimate of 2023 SSB relative to SSB_{MSY} is about 26%; therefore, reduced fishing mortality is allowed under the ABC control rule.**



The **rebuilding plan applies the ABC control rule**.

The PDT/TC reviewed the short-term projections and recommended these OFL and ABC values be considered by the SSC for 2025-2027 (Table 3). These projections are:

- consistent with the Council's ABC control rule,

[2] The FMP removes a portion of the ABC for management uncertainty to account for uncertain Canadian fixed-gear catch. The New Brunswick weir and shutoff fisheries are not quota managed; therefore, actual catches may be higher or lower than the assumed value used in these projections.
[3] See Amendment 8: https://www.nefmc.org/library/amendment-8-2

- based on the rebuilding plan[4] with updates to recruitment assumptions in the 2024 assessment,
- incorporate an estimate of catch from the New Brunswick fixed gear fishery, and
- use the most updated data available.

Table 3. Short-term projections of future stock status. Fixed gear catches were assumed equal to their 10-year averages with Canadian Catch= 4031 mt US Fixed= 16 mt. The ABC harvest control rule was applied to define the mobile fleet catches.

CHPTRECS_FIXED10YRAVG_HCR_AR annual Canadian Catch= 4031 US Fixed= 16

	Mobile Fleet F	SSB	P(overfishing)	P(overfished)	OFL	ABC	SSB/SSBmsy	P(rebuild)
2024	0.593	34451	0.923	1.000	–	–	0.185	0.000
2025	0.076	51904	0.000	0.886	18273	6741	0.279	0.009
2026	0.161	56718	0.005	0.857	21659	10885	0.304	0.014
2027	0.184	86607	0.035	0.565	30050	15435	0.465	0.058

3. PDT/TC Discussion

Missing 2023 spring NMFS bottom-trawl survey

For the 2024 stock assessment, the 2023 spring NMFS bottom-trawl survey was treated as missing. In the 2022 stock assessment, a likelihood penalty was used in the absence of the 2020 surveys. This approach was used again, however there were three other surveys providing information for 2023 (unlike for 2020). Additionally, the spring NMFS bottom-trawl survey does not catch age 1 herring. The 2024 survey index was available for comparison and remained low relative to recent years (Table 4).

Table 4. NMFS spring bottom-trawl survey abundance index (numbers/tow) for 2015-2024. 2020 and 2023 are treated as missing in the model. 2024 is not included in the model and provided for purposes of comparison.

Survey Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Index Value	65.5272	76.8743	38.4025	20.682	23.935	n/a	8.4231	17.9873	n/a	11.2738

[4] See Framework Adjustment 9: https://www.nefmc.org/library/framework-9-3

Canadian Catch Component

The PDT/TC discussed Canadian catches in recent years and recognizes the inter-annual variability of the New Brunswick fishery. The approach recommended is to keep the 10-year average consistent in the stock assessment and for the management uncertainty buffer. This would capture the possible variability of the landings and reduce the risk of overfishing the stock.

Projection Uncertainty

The PDT/TC discussed that the projections have been overly optimistic historically and that seems to be continuing. This is especially the case for the out-years of 2026 and 2027 and is driven by recruitment assumptions, despite the decisions made on projected recruitment (e.g., rho adjustment and auto-regressive approach unique to herring). Looking ahead, the Research Track Working Group is attempting to address the topic of recruitment.

Stock Rebuilding

Based on updated projections, stock rebuilding is falling behind schedule (Table 5) and may not rebuild in 10 years. There is a concern, similar to the short-term projections, that the out-years are highly uncertain and too optimistic.

2024 Catch Assumption

In the standard projections, the 2024 total ABC is used as the catch assumption. The projections indicate a high (>90%) probability of the stock experiencing overfishing if the full ABC is caught in 2024 (Table 5).

The PDT/TC developed a sensitivity run of the projection considering less than full utilization of the ABC (Table 6). The sensitivity projection adjusts the 2024 US mobile fleet bridge year catch by reducing it by 25% from 19,189 mt to 14,392 mt. All other assumptions were the same as the standard projections. The sensitivity run indicates that relatively modest reductions in bridge year catch can reduce the probability of overfishing below 50%. In addition, there are relatively minor changes in the short-term and rebuilding projections compared to standard projections.

The PDT/TC discussed some reasons why the US fishery may not catch the full ACL in 2024 and some of the uncertainties for catches in the second half of the fishing year (Figure 5):

- Area 2 currently has low catch relative to the sub-ACL. This area is typically a seasonal fishery and already past the peak herring timing. The fishery could take the full quota in the fall, but this is unlikely.
- The Area 1A sub-ACL is usually fully harvested. There is a transfer provision, which could increase the Area 1A sub-ACL in late fall by 1,000 mt.
- Stakeholders indicated is it difficult to justify going offshore in Area 3 because it is expensive to fish there, but the fishery could catch the full amount in the second half of the year if those fish are available.

- Area 1B catch is more uncertain and overall has a low sub-ACL. Much of this area falls within the River Herring/Shad Cape Cod Catch Cap Area. The fishery is currently under a 2,000 lb possession limit for midwater trawl gear. The full quota could still be utilized just outside the catch cap area.
- Preliminary data for 2023 indicates 76% of total US ACL was caught. By comparison, catch was 78% of US ACL in 2020, 103% of US ACL in 2021, and 88% of US ACL in 2022.

Table 5. 10-year projections of future stock status. Fixed gear catches were assumed equal to their 10-year averages with Canadian Catch= 4,031 mt US Fixed= 16 mt. The ABC harvest control rule was applied to define the mobile fleet catches.

	Mobile Fleet F	Mobile Fleet F 95%CI		SSB	SSB 95%CI		P(overfishing)	P(overfished)	OFL	ABC	SSB/SS Bmsy	SSB/SSBmsy 95%CI		P(rebuild)	P(closure)
2024	0.593	0.409	0.859	34450	21803	52779	0.923	1.000	–	–	0.185	0.117	0.283	0.000	0.009
2025	0.076	0.033	0.151	51905	24655	141054	0.000	0.886	18272	6741	0.279	0.132	0.757	0.009	0.004
2026	0.161	0.067	0.344	56730	27483	153330	0.005	0.857	21653	10882	0.304	0.147	0.823	0.014	0
2027	0.184	0.066	0.489	86578	40574	228835	0.035	0.567	30078	15450	0.465	0.218	1.228	0.057	0
2028	0.328	0.093	1.318	119449	45609	405658	0.300	0.321	40029	31117	0.641	0.245	2.177	0.221	0
2029	0.360	0.080	2.884	144384	47435	569121	0.375	0.236	48649	40581	0.775	0.255	3.054	0.348	0
2030	0.360	0.067	5.000	168847	49956	692995	0.389	0.182	56715	47209	0.906	0.268	3.718	0.443	0
2031	0.360	0.060	5.000	188966	52847	777716	0.395	0.147	63880	53116	1.014	0.284	4.173	0.508	0
2032	0.360	0.056	5.000	204360	55831	836424	0.396	0.123	69715	57953	1.097	0.300	4.488	0.554	0
2033	0.360	0.054	5.000	215281	58263	877951	0.399	0.108	74081	61555	1.155	0.313	4.711	0.583	0
2034	0.360	0.052	5.000	222616	60367	900895	0.398	0.097	77072	64038	1.195	0.324	4.834	0.601	0
2035	0.360	0.051	5.000	227582	61866	923870	0.397	0.091	79082	65692	1.221	0.332	4.957	0.616	0

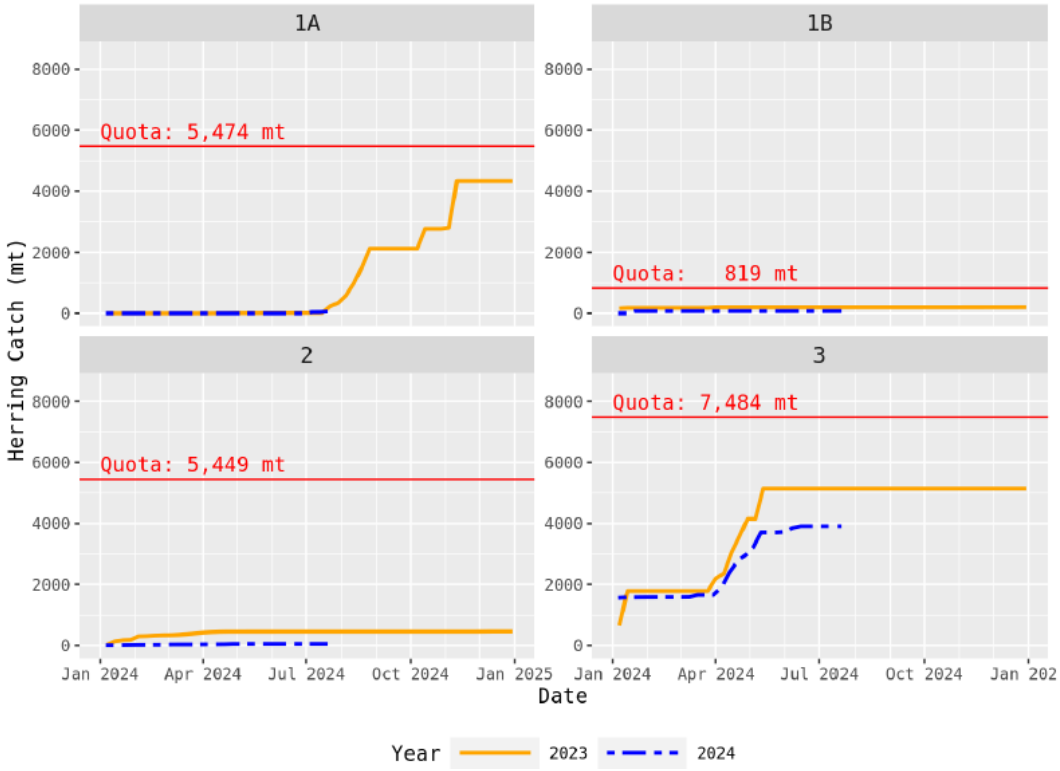
Table 6. Sensitivity run 10-year projections of future stock status. US mobile fleet bridge year catch in 2024 reduced by 25% from 19,189 mt to 14,392 mt with all other assumptions the same as the standard projections. Fixed gear catches were assumed equal to their 10-year averages with Canadian Catch= 4,031 mt US Fixed= 16 mt. The ABC harvest control rule was applied to define the mobile fleet catches.

	Mobile Fleet F	SSB	P(overfishing)	P(overfished)	OFL	ABC	SSB/SSBmsy	P(rebuild)
2024	0.422	38054	0.365	1.000	–	–	0.204	0.000
2025	0.094	55285	0.000	0.875	19496	7649	0.297	0.009
2026	0.177	58638	0.006	0.846	22513	11903	0.315	0.014
2027	0.193	87259	0.041	0.561	30525	16197	0.468	0.057
2028	0.331	119434	0.304	0.321	40180	31456	0.641	0.220
2029	0.360	144244	0.375	0.236	48638	40564	0.774	0.348
2030	0.360	168712	0.389	0.182	56667	47170	0.905	0.442
2031	0.360	188830	0.394	0.148	63829	53080	1.013	0.508
2032	0.360	204277	0.396	0.123	69679	57919	1.096	0.554
2033	0.360	215247	0.399	0.108	74060	61539	1.155	0.583
2034	0.360	222581	0.398	0.097	77063	64031	1.194	0.601
2035	0.360	227572	0.397	0.091	79075	65688	1.221	0.616

Figure 5. In-season 2024 Atlantic herring quota monitoring by sub-area and the total ACL, compared to 2023 catches (GARFO).

Report Run on: 2024-07-18
Quota Year: **2024** *(January 1, 2024 to December 31, 2024)*

Area	Quota (mt)	Cumulative Catch (mt)	Percent Quota Caught
1A	5,474	54.3	1.0%
1B	819	68.9	8.4%
2	5,449	51.1	0.9%
3	7,484	3,909.5	52.2%
ACL	19,141	4,083.8	21.3%



APPENDIX I: Past Atlantic Herring Fishery Specifications

This section provides a historical perspective on the degree of uncertainty in past Atlantic herring stock assessments, and the buffers that were established in the subsequent fishery specifications packages to account for those uncertainties. Table 7 summarizes the past specifications, uncertainty identified from previous Atlantic herring stock assessments, and the related SSC recommendations for catch advice.

2023-2025 Atlantic Herring Fishery Specifications

The SSC accepted the continued use of the ASAP model with new treatment of BRPs and projections for setting catch advice. The SSC appreciated the improvements made to the methods to calculate BRPs and short-term projections, specifically: 1) long-term projections used to define BRPs accounted for mortality from the fixed gear fishery, and 2) the recruitment stanza used to define BRPs was shortened (1992-2019) based on a changepoint analysis, representing the current lower productivity regime of Atlantic herring.

The SSC recommended setting OFLs and ABCs for fishing years 2023 to 2025 based on the Council's Atlantic herring ABC control rule, applied to projected biomass estimates for 2023-2025. The OFL and ABC projections were consistent with the Council's ABC control rule, based on the rebuilding plan with updates to recruitment assumptions in the 2022 assessment, incorporated an estimate of catch from the Canadian fixed gear fishery, and used the most updated data available.

During its deliberation, the SSC discussed two proposals for setting catch advice: 1) application of the Atlantic herring ABC control rule and 2) holding a constant ABC over the three-year period with the value based on the 2023 ABC derived from the ABC control rule. While there is still scientific uncertainty in the stock assessment (i.e., retrospective patterns) and projections, improvements were made to the model to address concerns raised by the SSC about BRPs. The SSC noted that a management track assessment is scheduled for Atlantic herring in 2024 and a research track assessment scheduled for 2025. Thus, the third year of catch advice will likely be replaced with a new set of specifications. There was concern expressed that projections have been consistently overly optimistic for this stock and there is no evidence of improved recruitment. The SSC noted that both the OFL and ABC projections increased with the changes made to calculation of BRPs and expressed concern about the magnitude of increase in ABC for a stock that is in a rebuilding plan. A proposal for setting catch advice constant was considered, but the SSC decided not to deviate from the Council's ABC control rule in setting catch advice.

2021-2023 Atlantic Herring Fishery Specifications

The SSC was prepared to implement the harvest control rule selected through the Amendment 8 MSE process. However, the SSC had reservations about the projections for Atlantic herring and were concerned about the assumptions regarding future recruitment, though noted that previous work indicated that the impact of low recruitment within the window of the short-term projections did not have strong impacts on the catch advice generated from the control rule. The SSC noted that age 1 recruitment in projections for 2021-2023 was drawn from 1965-2015 and the resulting projected biomass showed a substantial increase in the third year of the projection

relative to the earlier years of the projection. The SSC considered that the projected increase in biomass in 2023 was uncertain and were concerned about setting ABC based on this value. Following a discussion on this topic, the SSC resolved to make ABC recommendations for 2021 and 2022 based on the ABC control rule and ASAP projections but recommended keeping ABC in 2023 the same as 2022 due to the uncertainty in recruitment assumptions underlying the projections. However, the SSC recommended that the OFL be set to follow the projections for all three years of the advice.

The use of the reduced ABC in 2023 is consistent with the SSC's role in accounting for scientific uncertainty. It acknowledges that the projections are sensitive to the assumptions around recruitment. The SSC discussed that the Gulf of Maine and Georges Bank is considerably warmer than during most of the 1965-2015 period and that there may be other environmental factors that could be controlling herring recruitment. In carrying the 2022 ABC into 2023 instead of using the projections, the SSC is following the practice it developed in 2018. During that meeting, the projections were run using a more conservative recruitment assumption. Applying the harvest control rule to the final year of that projection led to an ABC that was similar to carrying the second year value forward. This suggests that the rationale of adding an additional uncertainty buffer onto the third year by holding it static is an appropriate way to handle scientific uncertainty for the herring stock.

2019-2021 Atlantic Herring Fishery Specifications

The SSC was prepared to recommend the Council implement the harvest control rule selected through the Amendment 8 MSE process. However, the SSC had reservations about the projections for Atlantic herring and were concerned about the assumptions regarding future recruitment. The SSC was concerned that age 1 recruitment in projections for 2019-2021 was drawn from 1965-2015 and the resulting projected biomass which showed a substantial increase over time. The SSC did not have confidence in the projected increase in biomass in 2021 and were concerned about setting ABC based on this value. Following an extensive discussion on this topic, the SSC resolved to make ABC recommendations for 2019 and 2020 based on the ABC control rule but recommended keeping ABC in 2021 the same as 2020 due to the uncertainty in the projections.

In addition, the SSC recommended the NEFMC request an updated assessment in 2020 based on the existing benchmark assessment. The objective of this update was to verify projected trend in biomass and recruitment with the aim of revising advice for 2021 based on more informed estimates of recent recruitment. That assessment was completed as a management track assessment in 2020. Finally, the SSC recommended further investigation into understanding the recent low recruitment of Atlantic herring and possible drivers.

2016-2018 Atlantic Herring Fishery Specifications

The SSC reviewed the catch projection included within the operational assessment report (2015) as well as an option developed by the PDT using the same control rule used in the previous specifications. That control rule involved a constant catch approach in fishing years 2016-2018, with the ABC set such that the probability of overfishing does not exceed 50% in any of those years. Based on the projection, the probability of overfishing was estimated to reach 50% in the

third year (2018). That control rule resulted in an ABC of 111,000 mt for 2016, 2017 and 2018, and associated OFLs of 138,000 mt in 2016, 117,000 mt in 2017, and 111,000 mt in 2018.

The rationale for this recommendation discussed by the SSC was as follows:

- A constant catch strategy is the preferred approach of the Council and industry.
- Key attributes of the stock and assessment (SSB, recruitment, F, survey indices, etc.) have not changed significantly since the benchmark assessment, on which the current control rule was based. However, survey indices suggest that the 2011-year class is the second largest in time series and will contribute significantly to the total population abundance and biomass in 2016-2018.
- The most significant change is that the retrospective pattern has become worse in the operational assessment. The assessment implemented a Mohn's rho correction to SSB in an attempt to account for the retrospective pattern, but there is no guarantee that the retrospective pattern will persist in sign and magnitude.
- Although the probability of overfishing reaches 50% in the third year, the probability of the stock becoming overfished is close to 0% in all years.
- The realized catch in the fishery is generally well below the ABC, which reduces the expected risk of overfishing.
- The current ratio of catch to estimated consumption is 1:4, which means that fishing is likely not the largest driver of stock abundance at present, however this does not negate the need to manage the fishing removals on this stock.

The considerations above led the SSC to conclude that ABC should remain relatively constant, or perhaps be reduced modestly. The recommended ABC of 111,000 mt, compared with status quo estimate of 114,000 mt, achieves that outcome. The SSC noted that the current high biomass of herring, bolstered by two very large year classes, is likely meeting ecosystem goals; however, meeting this goal is by default and not by design, as ecosystem goals are not identified or captured in the current control rule.

2013-2015 Atlantic Herring Fishery Specifications

When developing catch advice for the 2013-2015 Atlantic herring fishery specifications, the SSC considered projections at 75% FMSY as well as a constant catch approach. The SSC also considered two ABC control rules based on those utilized for forage fish in other regions. Given the condition of the Atlantic herring stock complex at that time, the control rules based on constant catch and 75% F_{MSY} were expected to produce approximately the same cumulative catch over the three years. The SSC noted that there is a higher risk of overfishing in the first year associated with the 75% F_{MSY} control rule and a higher risk of overfishing in the second and third years associated with the constant catch control rule. However, the SSC could not find any scientific reason to prefer one of these control rules over the other and considered them to be comparable in terms of risk of overfishing, given the information available. All considerations led the SSC to conclude that either control rule can be applied for 2013-2015 with low probability of overfishing or causing the stock to become overfished. The SSC recommended that the Council select either of these alternatives to specify ABC for the 2013-2015 fishing years.

The SSC considered several characteristics of the herring fishery and stock assessment before arriving at this decision regarding the ABC control rule for the 2013-2015 fishing years. The SSC did discuss the role of herring in the ecosystem and options for setting ecosystem-based ABCs. At that time, the SSC concluded that both control rules for the next three years would result in fishing mortality rates well below the natural mortality (M) rate and a stock size that is well above the standard biomass target, thereby likely meeting ecosystem-based biomass targets for a forage species by default if not by design. The SSC also agreed with the Herring PDT conclusion that natural mortality and consumption of herring by predators has been addressed in the SAW 54 benchmark assessment to the extent possible. Addressing M in this manner seems appropriate given herring's role as a forage species and appears to be consistent with other sources of information regarding food consumption and predation. Natural mortality and consumption have been evaluated in this stock assessment more thoroughly than assessments for other species in the Northeast Region.

2010-2012 Atlantic Herring Fishery Specifications

The Atlantic herring specifications for 2010-2012 were developed based on a 2009 update to the 2006 TRAC benchmark assessment. During the development of the 2010-2012 fishery specifications, the Council considered factors identified by the SSC when setting ABC and accounted for scientific uncertainty, including a retrospective pattern that resulted in an overestimation of stock biomass, MSY reference points estimated from the biomass dynamics model are inconsistent with the age-based - stochastic projection, recruitment, biomass projections, and the importance of herring as a forage species.

The SSC reviewed the TRAC update assessment and pointed out two sources of considerable scientific uncertainty:

> *(1) The assessment has a strong 'retrospective pattern' in which estimates of stock size are sequentially revised downward as new data are added to the assessment; and (2) Maximum sustainable yield reference points estimated from the biomass dynamics model are inconsistent with the age-based, stochastic projection; such that fishing at the current estimate of F_{MSY} is expected to maintain equilibrium biomass that is less than the current estimate of B_{MSY}.*

Other sources of uncertainty were discussed regarding recruitment, biomass projections, and herring as a forage species. Exploitable biomass was projected to decline during 2010–2012 due to the recruitment of poorer than average year-classes. Furthermore, the risk of depleting spawning components and the role of herring in the ecosystem as a forage species was also considered. Given the magnitude of uncertainty in the herring assessment and reference points, the SSC could not derive an ABC control rule at that time and recommended a new benchmark assessment of herring as soon as possible. The SSC suggested that the next benchmark assessment should revise MSY reference points to be consistent with the assessment method and consider including estimates of consumption and spatial structure in the assessment (September 2009 SSC Report).

The average retrospective inconsistency in the estimate of exploitable biomass is approximately 40%, and according to the 2009 TRAC Report, "uncertainty due to model configuration is

dwarfed by uncertainty due to retrospective bias." Therefore, the SSC considered that the magnitude of retrospective inconsistency accounts for the major sources of uncertainty in the assessment, and the buffer between OFL and ABC should be 40% (approximately 90,000 mt in 2010). Alternatively, the assessment suggested that recent catches have maintained a relatively abundant stock size (estimates of stock biomass from 1998 to 2008 have been greater than B_{MSY}) and low fishing mortality (estimates 1998 to 2008 fishing mortality have been less than F_{MSY}).

Total catch of the herring stock complex by U.S. and Canada in 2008 was 90,000 mt. Given the consistency in catch advice from these two approaches, the SSC's initial recommendation was that ABC should be 90,000 mt each year until the stock assessment is revised.

At its September 2009 Council meeting, the Council approved a motion to request that "the SSC revisit the size of the 40% buffer between OFL and ABC to consider whether application of recent years retrospective difference of about 17% is sufficient to account for scientific uncertainty caused by retrospective patterns." The SSC considered the Council request and concluded that there is no scientific basis for a 17% buffer, and that a 17% buffer is insufficient to account for scientific uncertainty. However, the SSC recommended that, as an alternative approach, annual catches in 2010 to 2012 could be limited to recent catch. Catches were 90,000 mt in 2008; the average for 2006 to 2008 was 106,000 mt; and the average for 2004 to 2008 was 108,000 mt. Acceptable biological catch (ABC) for Atlantic herring was ultimately set by the Council at 106,000 mt for 2010-2012 (Table 2). An additional buffer was taken to account for management uncertainty (primarily Canadian catch), and the stockwide ACL for 2010-2012 was specified at 91,200 mt, with an opportunity to add 3,000 mt to the Area 1A fishery if the Canadian catch did not exceed 9,000 mt by November 1.

Table 7. Summary of Previous Specifications for the Atlantic Herring Fishery and Buffers Between OFL/ABC.

	2010-2012			2013-2015			2016-2018			2019-2021		
	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021****
OFL	145,000	134,000	127,000	169,000	136,000	114,000	138,000	117,000	111,000	30,668	41,830	59,788
ABC	106,000	106,000	106,000	114,000	114,000	114,000	111,000	111,000	111,000	21,266	16,131	16,131
Total ACL/OY	91,200*	91,200	91,200	107,800	107,800	107,800	104,800	104,800	104,800 ***(49,900)****	15,065	11,571	11,471
Catch (U.S.)	68,454	82,444	87,171	95,191	93,084	81,203	63,515	48,796	45,527	12,782	8,076	
Catch (NB Weir)	12,221	4,133	513	6,440	2,667	884	4,849	2,368	11,912	5,115	6,041	
Stock Assessment	2009 TRAC (US/Canada) Update Assessment			SAW/SARC 54 Benchmark Assessment, June 2012			Operational Update Assessment, 2015			SAW/SARC 65 Benchmark Assessment, 2018		
Reference Points	B_{MSY} 670,000; F_{MSY} 0.27; MSY =178,374			SSB_{MSY} 157,000; F_{MSY} 0.27; MSY =53,000			SSB_{MSY} 311,145; F_{MSY} 0.24; MSY =77,247			$SSB_{MSY\ PROXY}$189,000, $F_{MSY\ proxy}$ 0.51; MSY =112,000		
Status	Not Overfished (651,700; 97%); Not overfishing (0.14)			Rebuilt (518,000); Not overfishing (0.14)			Rebuilt (622,991); Not overfishing (0.16)			Not overfished (SSB=141,473) and overfishing not occurring (F=0.45)		
Uncertainty	(1) Significant retrospective pattern; (2) MSY reference points			(1) 2008 Year Class; (2) Natural Mortality (M); Biological Reference Points			(1) 2011 Year Class; (2) Natural Mortality (M); Biological Reference Points			(1) Natural mortality; (2) stock recruit relationship; (3) stock structure		
Rationale	• SSC recommended 90,000 ABC (40% buffer) but Council asked SSC to revisit; SSC then recommended recent avg. catch, and Council selected 2006-2008 (106,000); • Buffer from ABC/ACL to account for NB weir catch; 3,000 added to 1A if NB weir catch less than 9,000; • Herring PDT – accounting for retro pattern should account for other uncertainty			• SSC – Constant catch and 75% FMSY produce close to the same catch/result over three years; • Provides more buffer in Years 1/2 for the 2008 YC; • Addressing M in this manner seems appropriate for this species; • Achieves result of ecosystem-based CR by default, if not by design; • Supported by industry (stability)			• Constant catch is preferred approach of Council and industry. • Key attributes of stock and assessment have not changed, but 2011 year class will contribute significantly. • Retro has become worse, Mohn's rho correction applied. • P overfishing is 50% in year 3, but P overfished is zero. • Realized catch generally well below ABC. Catch to estimated consumption is 1:4.			• The SSC recommendation - 2019 and 2020 based on the ABC control rule but keep ABC in 2021 the same as 2020 due to the uncertainty in the projections. • The SSC recommended the NEFMC request an update assessment in 2020 to verify projected trend in biomass and recruitment.		

** In-season action was implemented on August 22, 2018 to reduce the 2018 sub-ACLs to prevent overfishing based on results of 2018 assessment. Note: All numbers are expressed in metric tons (mt). U.S. Atlantic herring catch estimates and NB weir catch are from SAW65 which are calculated differently than final catch estimate, and 2020-2023 are from the 2022 and 2024 management track assessments.*

***Updated in next cycle.*

Continued. Summary of Previous Specifications for the Atlantic Herring Fishery and Buffers Between OFL/ABC

	2021-2023			2023-2025		
	2021	**2022**	**2023****	**2023**	**2024**	**2025**
OFL	23,423	26,292	44,600	29,138	32,233	40,727
ABC	9,483	8,767	8,767	16,649	23,409	28,181
Total ACL/OY	4,814	4,098 3,813 *adjusted due to 2020 overage*	4,098	12,429	19,189 19,141 *adjusted due to 2022 overage*	23,961
Catch (U.S.)	5,202	3,929	N/A	9,505	N/A	
Catch (NB Weir)	2,663	3,937	N/A	936	N/A	
Stock Assessment	Management Track Assessment, 2020			Management Track Assessment, 2022		
Reference Points	$SSB_{MSY\ PROXY}$ 269,000, $F_{MSY\ proxy}$ 0.54; MSY =99,400			$SSB_{MSY\ PROXY}$ 185,750 mt $F_{MSY\ proxy}$ 0.5 MSY = 68,980 mt.		
Status	Overfished (SSB2019 = 39,091; rho adjusted) and Overfishing not occurring (F2019=0.153, rho adjusted)			Overfished (SSB2021 = 47,955; rho adjusted) and Overfishing not occurring (F2021= 0.263, rho adjusted)		
Uncertainty	(1) Natural mortality; (2) stock recruit relationship; (3) stock structure			Natural mortality; stock recruit relationship; stock structure; low recruitment / projections		
Rationale	• The SSC resolved to make ABC recommendations for 2021 and 2022 based on the ABC control rule and ASAP projections, but recommended keeping ABC in 2023 the same as 2022 due to the uncertainty in recruitment assumptions underlying the projections. • The SSC recommended that the OFL be set to follow the projections for all three years of the advice.			• The SSC recommended setting OFLs and ABCs for fishing years 2023 to 2025 based on the Council's Atlantic herring ABC control rule, applied to projected biomass estimates for 2023-2025. The OFL and ABC projections were consistent with the Council's ABC control rule, based on the rebuilding plan • The SSC also considered applying a constant approach, due to concerns about the projections.		

APPENDIX II: Recent Catches, Effort, Revenue and Current Atlantic Herring Fishery Specifications

Atlantic herring

Atlantic herring (*Clupea harengus*) are small schooling fish found along the east coast from Labrador to Cape Hatteras, North Carolina. They are migratory, spending winters in the Mid-Atlantic, then traveling to Georges Bank (GB) and the Gulf of Maine (GOM) in early summer to spawn. Atlantic herring play a role as forage in the ecosystem for many predator species, including marine mammals, large fish, sharks, elasmobranchs, and seabirds. Many bottom-dwelling fish species such as cod, winter flounder, haddock, and red hake feed on herring eggs.

Initially managed by the Atlantic States Marine Fisheries Commission (ASMFC) and international agreements, a Federal Fishery Management Plan for Atlantic herring was developed in 2001. Co-management continues today.

ABC Control Rule – The Council's Atlantic herring Acceptable Biological Catch (ABC) control rule is biomass-based, designed to account for its role in the ecosystem. Implemented through Amendment 8 (A8) to the Atlantic Herring Fishery Management Plan, the ABC control rule has been in place since February 10, 2021. When biomass is greater than 0.5 for the ratio of Spawning Stock Biomass (SSB) / SSBMSY (Spawning Stock Biomass at Maximum Sustainable Yield), the maximum fishing mortality allowed is 80% of Fishery Mortality at Maximum Sustainable Yield (FMSY). As biomass declines, fishing mortality declines linearly, and if biomass falls below 0.1 for the ratio of SSB/SSBMSY, then ABC is set to zero, and there is no fishery allocation. The ABC control rule explicitly accounts for Atlantic herring as forage in the ecosystem by limiting F to 80 percent of F_{MSY} when biomass is high and setting it at zero when biomass is low.

Stock Status - Atlantic herring was determined to be overfished, but overfishing was not occurring, following a 2020 management track stock assessment. The overfished condition triggered the need for a rebuilding plan, which the Council developed through Framework Adjustment 9 (FW9) and was implemented July 19, 2022. The rebuilding plan is based on the ABC control rule.

Recent Assessments - Atlantic herring underwent a management track stock assessment in 2022, where the stock was found to still be overfished, but not subject to overfishing. SSB generally declined from 1997 to 2010, increased until 2014, and has been declining since (NEFMC 2023). The assessment estimated that SSB in 2021 was 39,091 mt, which is approximately 21% of the biomass target. The assessment identified continued poor recruitment as the main issue driving stock status, noting that some combination of spawning stock size and environmental conditions are likely driving recruitment. However, a definitive explanation for continued poor recruitment has not yet been identified (NEFSC 2022). Updated projections indicate the stock has a 50% chance of rebuilding by 2028, which is a two-year extension from the original rebuilding plan (5 years to 7 years) but is still within ten years from the start date of 2022 (NEFMC 2023).

A management track assessment for Atlantic herring occurred in June of 2024, for use in setting 2025-2027 specifications. A research track stock assessment is currently underway with a peer review scheduled for March of 2025.

Optimum Yield (OY) is the amount of fish that will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, taking into account the protection of marine ecosystems, including maintenance of a biomass that supports

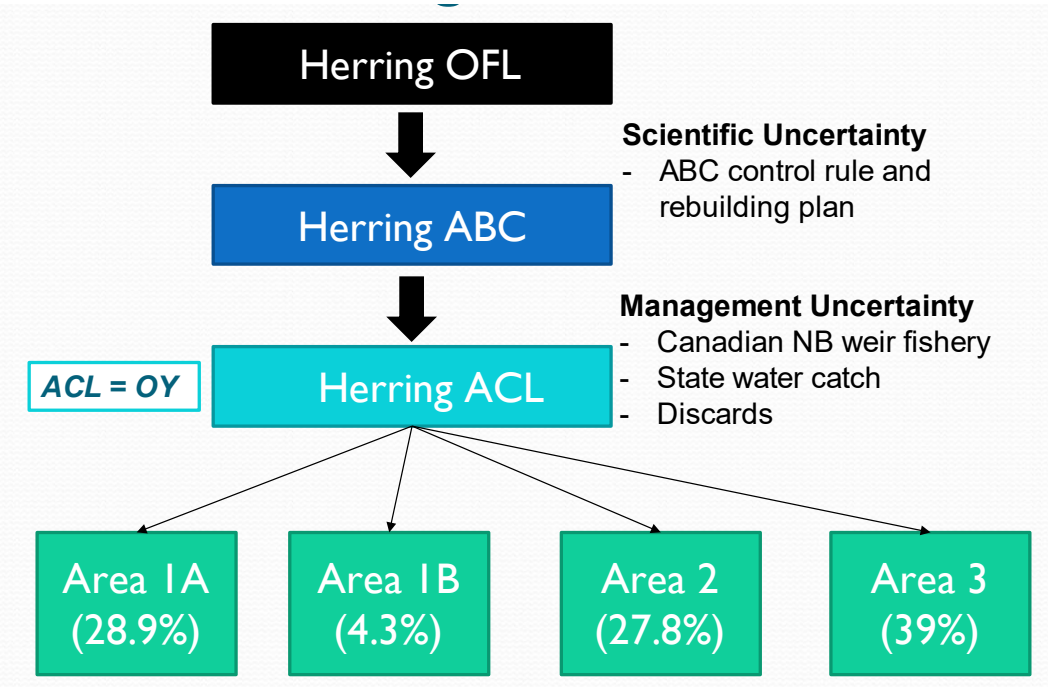
the ocean ecosystem, predator consumption of herring, and biologically sustainable human harvest (NEFMC 2019).

The stock-wide *Annual Catch Limit* (ACL) is determined as:

ABC – Management Uncertainty = Stock-wide ACL = OY

The stock-wide ACL for the fishery is distributed across four management areas: Area 1A (GOM), Area 1B (GOM), Area 2 (Southern New England/Mid-Atlantic Bight, SNE/MA), and Area 3 (GB) (Figure 1 and Map 1). The directed fishery is subject to in-season closures when 92% of a sub-ACL or 95% of the total ACL are caught, with a two-step process for Areas 2 and 3. There are also catch caps for haddock (GOM and GB) and river herring (alewife and blueback herring) and shad (American and Hickory) monitored in-season.

Figure 6. Overview of specifications for Atlantic herring.



Fishery Performance

Atlantic herring are used primarily as lobster bait, with a secondary food-grade market. Three main gear types are used to target herring: purse seine, midwater trawl, and bottom trawl. Atlantic herring are also harvested using fixed gear such as weirs. The Atlantic herring fishery is a high volume and low value fishery which has declined in recent years. In 2022, overall commercial landings totaled 9.3 million pounds. By comparison, a decade prior in 2013, commercial landings totaled 206 million pounds (Table 2).

Map 1. Atlantic herring management areas and river herring and shad catch cap areas in Northeast/Mid-Atlantic waters. Map Source: NOAA Fisheries.

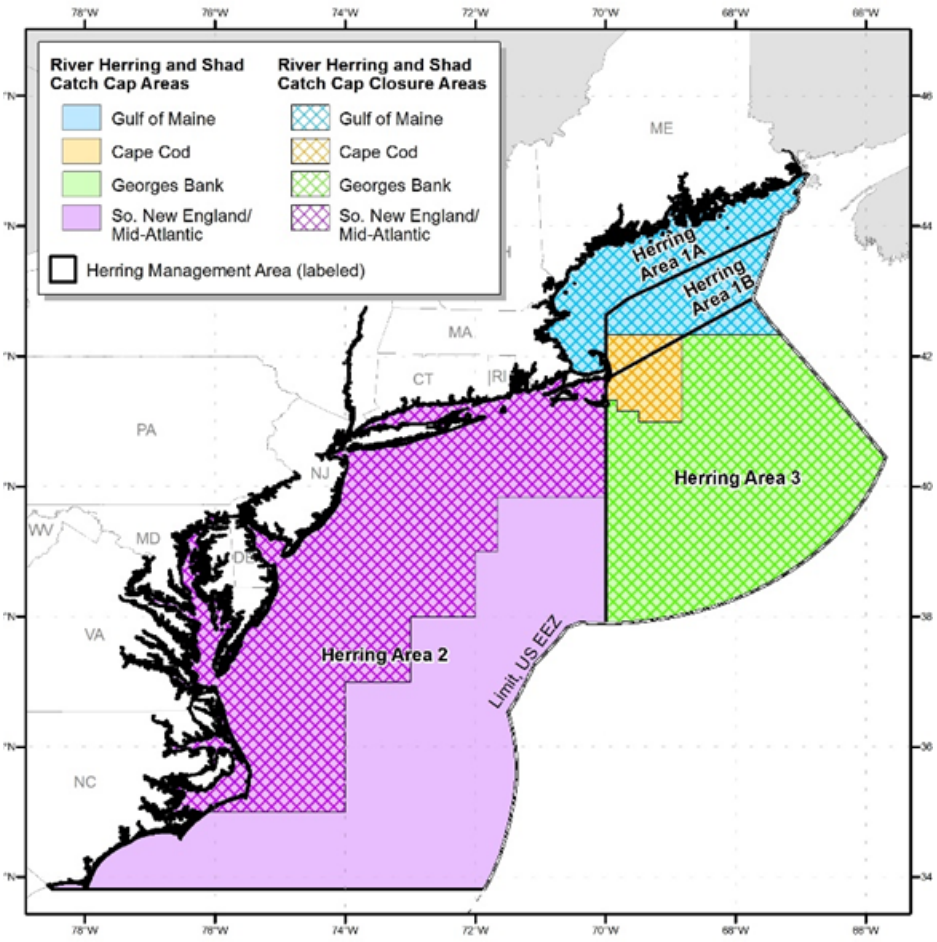


Table 8. Atlantic Herring Fishery Specifications for FY 2024.

	2024 specification value (mt)
Overfishing Limit (OFL)	32,233
ABC	23,409
OY/ACL	19,189*
Area 1A sub-ACL (28.9%)	5,546*
Area 1B sub-ACL (4.3%)	825
Area 2 sub-ACL (27.8%)	5,335
Area 3 sub-ACL (39%)	7,484

Source: 2023-2025 Atlantic Herring Fishery Specifications, 88 Fed. Reg. 17397 (March 23, 2023).
* if New Brunswick weir landings are less than 2,722 mt through October 1, then 1,000 mt will be subtracted from the management uncertainty buffer and reallocated to the Area 1A sub-ACL and ACL.

Table 9. Atlantic herring commercial landings, FY 2012- FY 2022.

Year	Landings (lb)	Landings (mt)
2012	191,756,605	86,980
2013	206,182,273	93,524
2014	202,308,678	91,767
2015	175,681,708	79,689
2016	138,135,658	62,658
2017	108,039,776	49,007
2018	96,510,245	43,777
2019	24,722,949	11,214
2020	20,841,921	9,454
2021	10,869,104	4,930
2022	9,301,244	4,219
Data Source: NOAA Fisheries Office of Science and Technology, Commercial Landings Query. Available at www.fisheries.noaa.gov/foss. Accessed 1/9/2024. Note: Data includes New England and Mid-Atlantic herring landings.		

Performance measures are summarized below and are focused on trips with 50% or more trip revenue from Atlantic herring (Table 3). Based on this threshold, around 21 vessels currently participate in the herring fishery. The top herring ports include: Portland, ME; Gloucester, MA; Rockland, ME; New Bedford, MA; and Point Judith, RI. Some vessels also participate in other fisheries, such as menhaden, squid, or mackerel.

Revenue in 2022 was $3.7 million, a steep decline from revenue in 2013 of $36.5 million. Since 2012, the number of vessels participating in the herring fishery has declined by roughly 60%, with the number of trips declining substantially, by just over 90%. These decreases correspond to catch limit restrictions beginning in 2018 in response to a decreasing herring stock. While the average price per pound of herring has increased over time to approximately $0.41/lb in 2022, revenue per vessel as well as total revenues have generally declined.

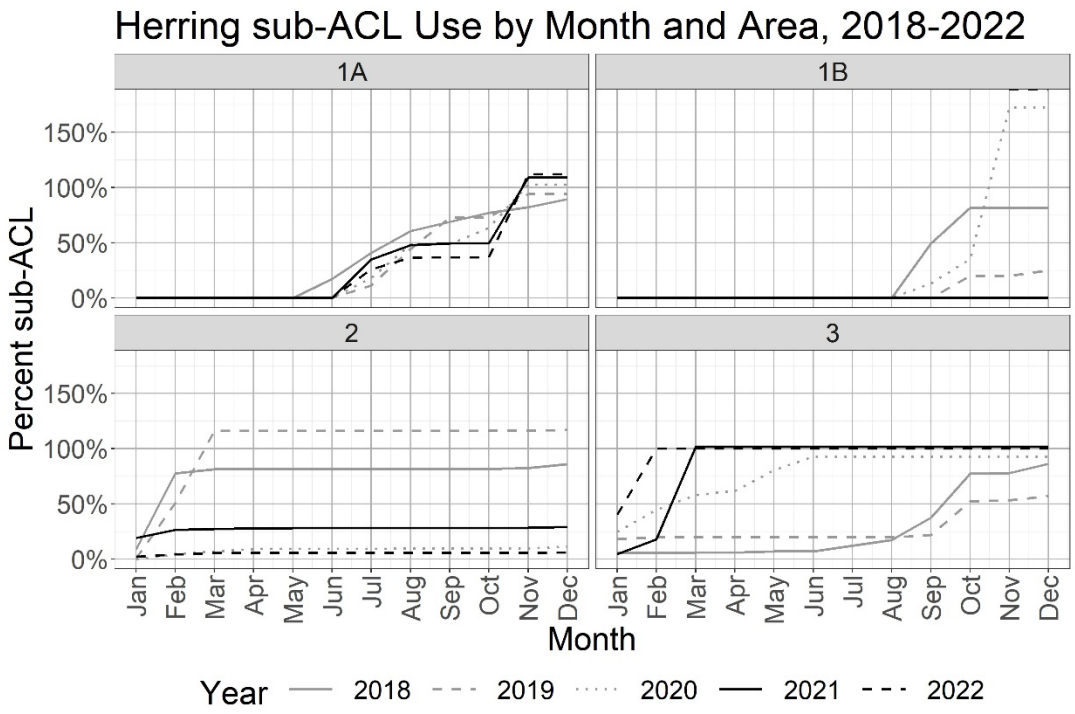
Table 10. Number of vessels, trips, average prices, and revenues based on trips with 50% or more of trip revenue from Atlantic herring, FY 2012-FY 2022. Normalized to 2022 dollars.

Fishing Year	Number of Vessels	Number of Trips	Average Price ($/lb)	Herring Revenue ($)	
				Average Per Vessel	Total
2012	51	975	0.17	649,398	33,119,298
2013	57	1126	0.18	640,811	36,526,196
2014	51	948	0.17	664,866	33,908,148
2015	43	804	0.17	676,971	29,109,731
2016	46	693	0.25	734,859	33,803,509
2017	50	737	0.30	611,774	30,588,696
2018	36	545	0.28	718,484	25,865,432
2019	33	209	0.40	316,703	10,451,204
2020	25	192	0.37	288,876	7,221,888
2021	21	189	0.37	160,283	3,365,937
2022	21	76	0.41	178,276	3,743,794

Data Source: NOAA Fisheries performance measures.
Notes: Data includes trips, vessels, and revenues assigned to the herring FMP. Trips are assigned to the herring FMP if 50% or more of trip revenue comes from Atlantic herring.
Economic values are normalized to 2022 dollars using the GDP implicit price deflator.

The following summarizes recent catch trends. The Atlantic herring fishing year starts on January 1 and catch is monitored based on a calendar year. Figure 2 shows Atlantic herring catch by month and area for fishing years 2018-2022. The Atlantic herring fishery is generally prosecuted south of New England (Areas 2 and 3) during the winter (January-April), and oftentimes as part of the directed mackerel fishery. There is overlap between the herring and mackerel fisheries in Area 2 and in Area 3 during the winter months. The Atlantic herring summer fishery (May-August) is generally prosecuted throughout the GOM in Areas 1A, 1B and in Area 3 (GB) as fish are available, though in 2020 Area 3 was closed in June. Restrictions in Area 1A have pushed the fishery in the inshore GOM to later months (late summer). The Atlantic herring fleet is restricted from fishing in Area 1A during the first half of the year because 0% of the Area 1A sub-ACL split is available for harvest January - May, and vessels are further prohibited from fishing with midwater trawl gear in Area 1A during June - September. Fall fishing (October-December) tends to be more variable and dependent on fish availability; the Area 1A (inshore GOM) sub-ACL is almost always fully utilized and typically closes sometime around November. As the 1A and 1B quotas are taken, larger vessels become increasingly dependent on offshore fishing opportunities (GB, Area 3) when fish may be available.

Figure 7. Atlantic herring sub-ACL use by month and herring management area (2018-2022).



Atlantic States Marine Fisheries Commission

Atlantic Menhaden Management Board

August 6, 2024
10:00 – 11:00 a.m.

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. Clark*)	10:00 a.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from April 2024	10:00 a.m.
3.	Public Comment	10:05 a.m.
4.	Review Report from US Geological Survey on Osprey Data in Chesapeake Bay *(D. Ziolkowski, Jr., B. Rattner)*	10:15 a.m.
5.	Progress Update on 2025 Ecological Reference Point Benchmark Stock Assessment *(K. Drew)*	10:40 a.m.
6.	Discuss Possible Chesapeake Bay Management (*L. Fegley*) **Possible Action**	10:45 a.m.
		11:00 a.m.
7.	Other Business/Adjourn	

The meeting will be held at The Westin Crystal City (1800 Richmond Highway, Arlington, VA; 703.486.1111) and via webinar; click here for details

MEETING OVERVIEW

Atlantic Menhaden Management Board
Tuesday, August 6, 2024
10:00 a.m. – 11:00 a.m.

Chair: John Clark (DE) Assumed Chairmanship: 5/24	Technical Committee Chair: Caitlin Craig (NY)	Law Enforcement Committee Representative: Matthew Corbin (MD)
Vice Chair: Vacant	Advisory Panel Chair: Meghan Lapp (RI)	Previous Board Meeting: April 30, 2024
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 April 30, 2024

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 should use the webinar raise your hand function and the Board Chair will let you know when to speak. 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 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. Review Report from U.S. Geological Survey on Osprey Data in Chesapeake Bay (10:15 – 10:40 a.m.)

Background

- In response to a request from the Board, U.S. Geological Survey staff have compiled information on the spatial and temporal distribution, timing of fledge, and nesting success of osprey within the Chesapeake Bay region.

Presentations

- Review of osprey report by D. Ziolkowski, Jr. and B. Rattner

5. Progress Update on 2025 Ecological Reference Point (ERP) Benchmark Stock Assessment (10:40 –10:45 a.m.)

Background

- The ERP Benchmark Assessment and the Atlantic Menhaden Single-Species Assessment Update are both scheduled to be completed for the 2025 Annual Meeting.

Presentations

- Update on the ERP Stock Assessment by K. Drew

6. Discuss Possible Chesapeake Bay Management (10:45 –11:00 a.m.) Possible Action
Background • Concerns have been raised on the status of the Chesapeake Bay Ecosystem
Presentations • Discussion of possible approaches for Chesapeake Bay area management
Board actions for consideration at this meeting • Possible Initiation of action to change management in Chesapeake Bay

7. Other Business/Adjourn

Atlantic Menhaden

Activity level: High

Committee Overlap Score: High (SAS, ERP WG overlaps with American eel, striped bass, northern shrimp, Atlantic herring, horseshoe crab, weakfish)

Committee Task List

- 2025 Single-species and Ecological Reference Point Stock Assessments
- Annual compliance reports due August 1st

TC Members: Caitlin Craig (NY, Chair), Josh Newhard (USFWS), Holly White (NC), Keilin Gamboa-Salazar (SC), Jason McNamee (RI), Eddie Leonard (GA), Jeff Brust (NJ), Matt Cieri (ME), Ingrid Braun-Ricks (PRFC), Micah Dean (MA), Kurt Gottschall (CT), Shanna Madsen (VMRC), Chris Swanson (FL), Ray Mroch (NMFS), Sydney Alhale (NMFS), Amy Schueller (NMFS), Alexei Sharov (MD), Garry Glanden (DE), Heather Walsh (USGS), Kristen Anstead (ASMFC), James Boyle (ASMFC)

SAS Members: Amy Schueller (NMFS, SAS Chair), Caitlin Craig (NY, TC Chair), Brooke Lowman (VA), Matt Cieri (ME), Chris Swanson (FL), Sydney Alhale (NMFS), Jason McNamee (RI), Alexei Sharov (MD), Jeff Brust (NJ), Katie Drew (ASMFC), Kristen Anstead (ASMFC), James Boyle (ASMFC)

ERP WG Members: Matt Cieri (ME, ERP Chair), Jason Boucher (NOAA), Michael Celestino (NJ), David Chagaris (FL), Micah Dean (MA), Rob Latour (VIMS), Jason McNamee (RI), Amy Schueller (NFMS), Alexei Sharov (MD), Howard Townsend (NFMS), Jim Uphoff (MD), Shanna Madsen (VMRC), Kristen Anstead (ASMFC), Katie Drew (ASMFC)

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

ATLANTIC MENHADEN MANAGEMENT BOARD

The Westin Crystal City
Arlington, Virginia
Hybrid Meeting

April 30, 2024

TABLE OF CONTENTS

INDEX OF MOTIONS

ATTENDANCE

Board Members

Megan Ware, ME, proxy for Pat Keliher (AA)
Steve Train, ME (GA)
Rep. Allison Hepler, ME (LA)
Cheri Patterson, NH (AA)
Doug Grout, NH (GA
Sen. David Watters, NH (LA)
Nichola Meserve, MA, proxy for D. McKiernan (AA)
Raymond Kane, MA (GA)
Sara Ferrara, MA, proxy for Rep. Peake (LA)
Conor McManus, RI, proxy for J. McNamee (AA)
David Borden, RI (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
Robert LaFrance, CT, proxy for B. Hyatt (GA)
Marty Gary, NY (AA)
Emerson Hasbrouck, NY (GA)
Joe Cimino, NJ (AA)
Jeff Kaelin, NJ (GA)
Adam Nowalsky, NJ (LA)
Kris Kuhn, PA, proxy for T. Schaeffer (AA)
Loren Lustig, PA (GA)
John Clark, DE (AA)
Roy Miller, DE (GA)
Craig Pugh, DE, proxy for Rep. Carson (LA)
Lynn Fegley, MD, AA (Acting)
Russell Dize, MD (GA)
Allison Colden, MD, proxy for Del. Stein (LA)
Pat Geer, VA, proxy for J. Green (AA)
Chris Batsavage, NC, proxy for K. Rawls (AA)
Chris McDonough, SC, proxy for M. Rhodes (GA)
Ben Dyar, SC, proxy for Sen. Cromer (LA)
Doug Haymans, GA (AA)
Spud Woodward, GA (GA)
Jeff Renchen, FL, proxy for Gary Jennings (GA)
Ron Owens, PRFC
Max Appelman, NMFS
Rick Jacobson, US FWS

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

Ex-Officio Members

Caitlin Craig, Technical Committee Chair

Staff

Bob Beal
Toni Kerns
Tina Berger
Madeline Musante
Lindsey Aubart
Tracey Bauer
James Boyle
Caitlin Starks
Chelsea Tuohy
Emilie Franke
Katie Drew
Kristen Anstead
Jeff Kipp
Jainita Patel
Trevor Scheffel

Guests

Dennis Abbott
Thad Altman
Mike Armstrong, MA DMF
Steve Atkinson, Virginia Saltwater Sportfishing Assn.
Pat Augustine
Linda Barry, NJ DEP
Mel Bell
John Bello, Virginia Saltwater Sportfishing Assn
Joseph Beneventine
Greg Blackler, Maine Elver Fishermans Assn.
Colleen Bouffard, CT DEEP
Michael Bowen, Cornell Uni.
Ingrid Braun-Ricks, PRFC
Olivia Brocklebank
Delayne Brown, NH FGD
Jeff Brunson, SC DNR
Jeffrey Brust, NJ DFW
John Carmichael, SAMFC
Nicole Caudell, MD DNR
Michael Celestino, NJ DEP
Benson Chiles
Matthew Cieri, ME DMR
Haley Clinton, NC DEQ
Brian Collins
Margaret Conroy, DE DNREC
Matt Corbin, MN NRP
Claire Crowley McIntyr, FL FWC
Scott Curatolo-Wagemann, Cornell Cooperative Extension of Suffolk County

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

Guests (continued)

Caitlyn Czajkowski
Tanya Darden, SC DNR MRRI
Conor Davis, NJ DEP
Montgomery Deihl, Ocean Fleet Services
Taylor Deihl, Ocean Harvesters
Greg DiDomenico
Steve Doctor, MD DNR
C. Dollar, CCA National
Roman Dudus
Phil Edwards, RI DEM
Julie Evans, East Hampton Town Fisheries Advisory Cmte.
Steve Fagan, SMRFO
James Fletcher, Unites National Fisherman's Association
Anthony Friedrich, ASGA
David Frulla
Alexa Galvan, VMRC
Keilin Gamboa-Salazar, SC DNR
Matthew Gates
Shaun Gehan
Lewis Gillingham, VMRC
Angela Giuliano, MD DNR
Berlynna Heres, FL FWC
Jaclyn Higgins, TRCP
Peter Himchak, Omega Protein
Harry Hornick, MD DNR
Jesse Hornstein, NYS DEC
Derrek Hughes, NY DEC
Bill Hyatt, CT (GA)
Todd Janeski, VCU
Mike Jech, NEFSC
Gary Jennings, FL (GA)
TJ Karbowski, Rock & Roll Charters
Amy Karlnoski, Office of NYS Assemblyman Fred W. Thiele, Jr.
Carrie Kennedy, MD DNR
Aaren Kornblutit
Adrienne Kotula
R. Kramer, Wild Oceans
Robert LaCava, MD DNR
Ben Landry, Omega Protein
Laure Lee, US FWS
Nicole Lengyel Costa, RI DMF
Ben Levitan, Earthjustice
Brooke Lowman, VMRC
Michael Luisi, MD DNR
Shanna Madsen, VMRC
John Maniscalco, NYS DEC
Anthony Mastitski, Marine Stewardship Council
Joshua McGilly, VMRC
Daniel McKiernan, MA (AA)
Alexandre Meirhaeghe, NYS DEC
Steve Meyers
Chris Moore, Chesapeake Bay Foundation
Janelle Morano, Cornell Uni.
Molly Morgan-Ogren, RI DEM
Ray Mroch, NOAA
Dale Neal
Jean Nelson
Thomas Newman, North Carolina Fisheries Assn.
Jeff Nichols, MA DMR
Scott Olszewski, RI DEM
Marina Owens, FL FWC
Danielle Palmer, NOAA
Alexis Park, MD DNR
Michael Pirri
Brandon Price, VMRC Marine Police
Jill Ramsey, VMRC
Davis Reed, Chesapeake Legal Alliance
Harry Rickabaugh, MD DNR
Bailey Robertory, Chesapeake Research Consortium
James Rogers
Kevin Rose
Amy Schueller, NOAA
Chris Scott, NYS DEC
Tara Scott, NOAA
Alexei Sharov, MD DNR
David Sikorski
Ethan Simpson, VMRC
Joseph Smith
Somers Smott, VMRC
Blaik St. Amand, CT DEEP
John Sweka, US FWS
Kristen Thiebault, MA DMF
Chad Thomas, NC Marine & Estuary Foundation
Jim Uphoff, MD DNR
Taylor Vavra, Stripers Forever
Tim Wheeler, Bay Journal
Ritchie White
Kelly Whitmore, MA DMR
Lowell Whitney, US FWS
Angel Willey, MD DNR
Travis Williams, NC DEQ
Steven Witthuhn, NY MRAC
Gregory Wojcik, CT DEEP
Rich Wong, DE DNREC
Chris Wright, NOAA
Phil Zalesak
Daniel Zapf, NC DEQ
Renee Zobel, NH FGD

The Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission convened in the Jefferson Ballroom of the Westin Crystal City Hotel, Arlington, Virginia, via hybrid meeting, in-person and webinar; Tuesday, April 30, 2024, and was called to order at 1:15 p.m. by Chair Conor McManus.

CALL TO ORDER

CHAIR CONOR McMANUS: Good afternoon, everybody. For those of you who do not know me, my name is Conor McManus. I am the Chair for the Atlantic Menhaden Management Board. I would like to call the meeting to order.

APPROVAL OF AGENDA

CHAIR McMANUS: With that being said; we'll move on to our first item, which is Approval of the Agenda. Is there anyone who has comments or revisions to the agenda as written? Seeing no comments or hands, I assume that we can approve with consent.

APPROVAL OF PROCEEDINGS

CHAIR McMANUS: Which will then move us to approval of the meeting summary from October, 2023. Are there any revisions recommended by the Board? Seeing none; then we will consider that approved by consent.

PUBLIC COMMENT

CHAIR McMANUS: Which then brings us to Public Comment. Just by a quick show of hands in person and online, how many folks do we have who are interested in providing public comment?

MS. TONI KERNS: Just to be clear, we see no hands raised right now online. If there is anyone online that wants to make public comment, please make sure you raise your hand now, three minutes.

CHAIR McMANUS: What we'll do now is we'll enter into public comment. I'll look to folks in the room first, and then we'll look to those online for three-minute public comment for items not on the agenda. Remember it's public comment, not a dialogue with the Board, so hopefully looking to obtain your public comments and then the Board is listening. With that I think I'll look to the room first for public comment. Yes, feel free to step to the microphone.

MR. PHIL ZALESAK: All right, Mr. Chairman. My name is Phil Zalesak; I am the spokesman for the Save Our Menhaden Coalition. Striped bass are dependent on menhaden for their survival. The higher the mortality rate of menhaden, the higher the mortality rate of striped bass will be. The current Virginia Atlantic menhaden reduction fishery allocation is 158,000 metric tons. That is three-quarters of a billion fish approved to be removed from the Chesapeake Bay and its entrance, during a period of time of little migration.

That is two-thirds of the total allowable catch for the entire Atlantic coast. This is the very definition of localized depletion. According to NOAA, the recreational harvest of striped bass has declined 72 percent in Maryland/Virginia from 2016 to 2022. During the same period of time, the reduction fishery exceeded its Chesapeake Bay quota by 15,000 metric tons in 2019, which created further foraging pressure on striped bass. Therefore, striped bass are most likely being starved to death, not overfished.

Further, the Maryland Department of Natural Resource's Stripe Bass 2023 Young of the Year Index, is 1.0, well below the long term 11.1. That is five straight years of poor performance. Mr. Chairman, the Coalition recommends that the Board task the Technical Committee to complete the following, no later than August of this year.

First, determine the ecological and economic benefit of ending reduction fishing in Virginia waters. Second, determine the ecological and economic benefits, realized by New Yorkers and ending reduction fishing in their waters. Oh, by the way, the Coalition is comprised of scientists like Dr. Noah Bressman of Salisbury University, thousands of recreational fishermen, the Sierra Club, the Audabon Society, and the Internation Osprey Foundation. I thank you for your time.

CHAIR McMANUS: Thank you for your public comment. Do I have a hand for someone next? Yes, feel free to step to the microphone.

MR. DAVID REED: Good afternoon, my name is David Reed. Fisheries managers for the Virginia Marine Resource Commission recently advised that Commission not to act on a petition for rulemaking. In one breath the fisheries manager positively stated that overfishing and localized depletion is not occurring, and that the petition intentionally misled the Commission to think otherwise.

But immediately following this, Ms. Madsen and others lamented that they simply don't have the data to determine whether localized depletion is occurring in the Bay, so which is it? The fact is, unbalanced the totality of evidence, including the data and modeling in the Atlantic, as well as back of the envelope modeling of local stocks, and also anecdotal data, shows that it is more likely than not that localized depletion is occurring in the Bay and the mouth of the Bay.

With the 2019 Liljestrand and Wilberg study showing minimal communication and disbursement between Atlantic regional populations, this strongly suggests that it is more likely than not that when regional and local populations are depleted, they are not quickly replenished. In this case over 200 million pounds in a single season from the Bay and the mouth of the Bay.

Both Virginia fisheries law and the Magnuson-Stevens Act require not only an ecosystem-based management approach, but a precautionary one. That is inaction until scientific certainty demands a response runs afoul of the legal requirements for fisheries managers and of science itself. Furthermore, a failure to properly acquire the data, the largest and most important estuary in the Atlantic coast is not a justification for inaction.

Lamenting the lack of that data is not a response. This Board should not follow the agenda of any particular stakeholder/staff member, but instead manage the regional fishery to protect the regional estuary, and not to ignore the obvious and enormous difference between managing the Atlantic stock and the Bay stock. The Board made the right decision in 2017 to reduce the Bay cap. It should further reduce the cap unless and until the data is available to determinately show the Bay stock is healthy on an ecosystem basis. Finally, because we have three minutes and not two. Most scientists bristle at both letter conclusions and studies, and potentially skewed analyses interpretations for the purpose of both claims, I get that.

All that said, folks generally don't understand that most research merely shows a strong tendency. This is true of modeling and experimental designs. Statistical significance is not a smoking gun. We today have the opportunity to put all this in perspective. Don't wait for smoking gun science that we all know isn't coming, which virtually no field can produce, without which we simply cannot know anything.

Ecosystem pressures, species pressures could be climate, bacteria, dissolved oxygen and a litany of other drivers, but that is obfuscation with an agenda not to act. Menhaden removal from the system is a substantial and maybe even primary driver of both osprey and striped bass population stress. That we can't know with certainty which one it is, not precluded for consideration for menhaden.

CHAIR McMANUS: Thank you very much for your comments. Yes.

MR. BRIAN COLLINS: Thank you, my name is Brian Collins, I consider myself a concerned citizen and active participant in dialogue on the concerns you've heard about. I've put a few things together that are questions that our informed group has raised, and the answer that we currently have, for your consideration and the ability to clarify. I know this isn't an interactive session.

What does ASMFC and VMRC know about the availability and ecosystem demands from menhaden in the Chesapeake Bay, the largest and most important estuary in the United States?

Reportedly nothing. How does ASMFC set the quota of 112 million pounds, 51,000 metric tons of menhaden in the Bay? By using historical catch data.

How is the quota at the mouth of the Chesapeake Bay of 230 million more pounds related to the Bay quota? It's not. Industrial fishing can remove all menhaden coming and going from the mouth of the Bay, up to another 230 million pounds. How did menhaden quotas adjust for striped bass failure, since the Bay is the nursery for 60 to 80 percent, you know there is different percentages out there, of the east coast stock in the nursery of the Bay for nine years?

We need to feed those fish so that they can supply the east coast supplies. The striped bass regulations this year have no adjustments whatsoever for the quota, to address the striped bass concerns. All the blame was placed on recreational and commercial fishing. How can we get an ecosystem monitoring threshold for menhaden in the Chesapeake Bay, like Rhode Island has for Narragansett Bay? Answer, we need either ASMFC or VMRC to step to the plate and take care of that. Thank you very much for your time.

CHAIR McMANUS: Thank you very much for your comments, is there anybody else in the room, just confirming? Excellent, so now we will be moving to folks online. First online, look to Steve Atkinson, if you can unmute on your end, feel free.

MR. STEVE ATKINSON: Yes, Steve Atkinson, I'm with the Virginia Saltwater Sportfishing Association. I would like to point out that there is some science that is available right now for menhaden that in our view, strongly suggests that a precautionary approach is needed in the Chesapeake Bay, with a significant reduction in the Bay cap.

What I'm referring to is the fact that the industry, last year in particular, was not able to hit their Bay cap or was not able to hit their total allowable catch, in spite of adding an additional harvest shift. That in itself is data. During the first part of the summer, particularly May, June, July, many of the local area bait shops reported having great difficulty finding menhaden for bait.

Their source of menhaden is usually pound netters, and the pound netters simply were not finding menhaden at that part of the season. The osprey research, you're certainly familiar with that. I won't dwell on that. More recently, of course you've heard, we had a promising bill in the General Assembly and from everything I can tell, the industry helped lobby against the bill for the second year in a row.

Once again, there are claims that there is no science to support our concerns, yet the industry apparently is lobbying against these very bills that would give us even more science. Again, therefore I think a precautionary approach is needed, until such time as science can show that it is not causing harm.

I think if we have that hook, we might find that suddenly the industry is much more interested in participating in science. Finally, I have to add, unfortunately the VMRC Board is not capable of doing anything here, and that is largely because the Board is stacked with friends of the menhaden industry. Thank you very much for your time.

CHAIR McMANUS: Thank you for your comments, and we have one last late individual interested in public comment, so we will ask you to unmute, and try to be brief as much as you can. Jim Fletcher.

MR. JAMES FLETCHER: The United National Fishermen's Association for years has said pharmaceutical pesticides and manmade chemicals are the problems for most fisheries. We now know that the PFAS and plastic micro and nano are more of a problem than we realized. Rather than going sport against recreational, why don't we try an enhancement program of spawning trillions of menhaden, and releasing them where the eggs and larvae can grow?

Why not try something different? The situation is, enhancement may be the solution, but the true problem lies with the wastewater that is coming

downstream, and that can be addressed by land applicating all wastewater. Thank you for your time, and hope that somebody listens to the plastic problem and the wastewater problem. Thank you, James Fletcher, United National Fishermen's Association.

CHAIR McMANUS: Thank you for your comments, Jim. With that, that will close out our public comment period for this meeting.

REVIEW REPORT ON ACOUSTIC SURVEY OF OVERWINTERING ATLANTIC MENHADEN OFFSHORE OF NEW JERSEY

CHAIR McMANUS: With that we'll move on to Item 4 on the agenda, which will be Report on and Acoustic Survey of Overwintering Atlantic Menhaden Offshore of New Jersey, presented by Dr. Genny Nesslage. With that, I will pass it to you, Genny.

DR. GENEVIEVE NESSLAGE: Thank you, Chair, and thank you all. Good afternoon; my name is Genny Nesslage. I am now an Associate Research Professor at Chesapeake Biological Lab, and a former member of the Commission family, so it's good to be back and see you all this afternoon. Thank you for letting me have the opportunity to brief you today on a Cooperative Survey that we ran for Atlantic menhaden in the winter of 2022.

This project was highly collaborative, cooperative research done in collaboration between academic and private scientists, industry folks, as well as numerous federal and state partners. There was a large team of folks, including colleagues here at Chesapeake Biological Lab, as well as folks you know well from Virginia Institute of Marine Science, Normandeau working alongside the folks from Lund's Fisheries, our wonderful captain, Stef and Leif Axelsson from the vessel we used for the survey, the F/V Dyrsten.

We were very fortunate to have the feedback and the partnership of the Northeast and Southeast Fisheries Science Centers, as well as New Jersey DEP, all working together on this project. It was such a huge thing to get it done. I just want to extend my thanks to the Commission for your support of this science, as well as the states of Delaware, North Carolina and South Carolina, for providing transfer quota to New Jersey in 2022, to make sure we were able to get this science done, so thank you.

When people hear the phrase menhaden survey, they get very excited. I'm glad they do. I get excited myself, but I just want to tell you a little bit about the very specific goals of this particular survey. This was a project funded by NOAA Fisheries through the Saltonstall-Kennedy Program, with the goal of providing science that promotes sustainable U.S. seafood production and harvesting.

In particular, we started working on this project in response to a need the industry had. There is a winter bait fishery out of New Jersey that operates mostly between January and March. It began in 2014, and they seemed to very easily hit their quota, and they claim that they were seeing a lot more fish out on the water, and were asking for more quota.

But of course, we don't know how many fish are out there. In fact, when I started at the Commission back in 2008, we didn't even think that menhaden were overwintering in that region of the coast. This is really an area where we know very little about their biology, what they're doing up there in the winter, and how many there might actually be off the coast of New Jersey for this particular fishery.

We set out to conduct a hydroacoustic survey of the overwintering menhaden population of offshore of New Jersey, to see basically what the biomass of menhaden might be in that region. Then of course, what is the age, the size, the sex structure, maturity of the fish that we encounter in that study area.

We were partnering with industry on this, and using an industry vessel, and the acoustics onboard, and so one of our other goals was to see how accurate those industry acoustics were, and whether there was potential for future use in additional cooperative research in the future. Then we also

sampled menhaden. The idea was that if we did encounter menhaden, we would age them in the lab and do a thorough aging evaluation study to see what the uncertainty is for these animals that we anticipated would be some of the older fish, given how menhaden tend to stratify by age along the coast. When we set off to start thinking even about this project, it was back in 2015/2016.

When we sat down to design this survey, we realized how difficult it was going to be, because menhaden don't like to play by normal fish rules. They tend to form, as you know, extremely large, very dense schools. But they are very patchily distributed across the seascape, such that if you run a normal acoustic survey, you might not encounter them.

That was a challenge, and in addition we were trying to survey in the winter. While in the summer, as you all know, large schools are near the surface, you can see them from a spotter pilot in the wheelhouse of a large vessel, and you can harvest them with purse seines pretty easily. That is not so in winter.

In winter the school's kind of go subsurface when the water temperature drops. Therefore, you can't use purse seines, you can't see them, how are we going to survey for them? What we did was we spent quite a bit of time with a project funded by the NSF Science Center for Marine Fisheries to design and simulation test a new acoustic survey that was tailored just for Atlantic menhaden, and to try and meet all those challenges I just mentioned.

We published that approach and the simulation study that we did to accompany that in 2020 in fisheries research, and in that same year we also, thanks to you all, had the Technical Committee review that in our implementation plan for the cruise, and they provided a lot of great feedback, which we incorporated into our final cruise plan.

That is all, and you can also reference the memo from August of 2020 for that. I'll just briefly touch on why this survey design is a little bit different. You've probably seen other acoustic surveys where folks go out, the scientific crew goes out with a vessel, and they run, transect random lines along a study area.

They are looking with the echo sounder, the down sounder, down underneath the boat, for any biomass of fish that they might cruise over. The problem being of course if we did that, we might not see any menhaden, because they are very densely packed in these tight little schools across the landscape.

What we decided to do was use a combination of the down sounder, that you would normally use for an acoustic survey, along with the omnidirectional sonar that is also on this vessel, looking out in front of and beside the boat. That effectively allowed us to expand our search area out to about 1,600 meters each side of the boat, as opposed to just being underneath the vessel, maybe 30 or 50 meters wide.

If we encountered a fish school within that search area, 1,600 meters each side of the boat, then we included that in our analysis. If we saw schools outside of that range, we noted them. But they were not included in the final biomass estimates, just to maintain statistical rigor with this design. The actual survey area that I keep referencing, I'll show you a map here. Our basic operations were in Cape May, and we were surveying the area about 15 to 50 miles offshore from the southern end of Hudson Canyon down to the Delaware/Maryland, excuse me the New Jersey/Delaware border. You can see here that the area outlined in gray, and then the black lines are the actual transects that we ran.

They were straight line transects, perpendicular to shore. You can see the general area of highest concentration where the state fishery is operating, although they do move into offshore waters farther north and farther south, a lot of the fishing occurs in this region. We utilized the fishing vessel the Dyrsten, which many of you may be familiar with.

It's 160-foot midwater trawling vessel, it's quite large and powerful. We had two experienced

captains onboard, who provided a lot of the knowledge we needed to make the logistics actually work in the timeframe we had. We were very fortunate that our partners were the VIMS survey crew, which are usually onboard the NEAMAP and the CHESMAP surveys.

We had a very experienced scientific Chief Science Officer, as well as the sampling crew, that you would normally have for the other coastal surveys. The vessel is equipped with some of the most advanced industry-grade downsounder and omnidirectional sonar on the market, so we felt that this might be a possible substitute for the scientific-grade sonar that is typically used on science vessels.

But of course, we set off to test that, and I'll talk about that in a moment. One of the ways that we were able to test that is that this vessel was large enough to capture with the midwater trawl net, and then store individual schools of menhaden. What this gave us the ability to do was to collect echosounder sonar data on the schools that we encountered under the vessel as we passed over it, and then compare the biomass that we estimated from the sonar with the actual weigh-out at the dock at Lund's.

They individually pumped out each school from each of the individual tanks, and weighed them individually, so we could do a side-by-side and see how accurate our sonar estimates were. We were delayed one year in implementation because of COVID, but we did finally get on the water in winter of 2022, and we spent about three days actually calibrating the sonar.

When I say we, I should thank Dr. Mike Jech and the VIMS crew. Mike Jech is acoustic expert at the Northeast Fisheries Science Center, came down and spent his weekend helping us calibrate the sonar equipment onboard, so that we would have that for post processing. The actual design-based survey was conducted from Valentine's Day through about ten days after that.

We had two days that we weren't on the water, because of a severe storm that came in. But otherwise, we were able to proceed pretty regularly. We actually finished a little bit early, and both the industry and academic folks were so excited about what they were doing, that they actually volunteered to go back out with the crew.

What we ended up doing was collecting fishery dependent data with the VIMS sampling crew onboard for an additional week from the end of February through the beginning of March. Then once the VIMS crew had to go back and actually work on their own surveys, we had Lund's Fisheries kindly continue to do additional port sampling, so that we were getting the most out of that particular year, sampling and collecting as much information as we could as part of this project. I am happy to report that we encountered a lot of menhaden. It was very exciting. A lot of this is new data that no one had ever seen before, so I'm happy to share this with you.

We ended up collecting sonar data on over 100 schools of menhaden. Five of them were sampled individually, stored in individual tanks and then weighed at port, so that we could do that comparison that I mentioned before. We also took advantage of the opportunity, while we ere on the water, to collect as much hydrographic data as we could, so we would get a handle on what the ocean conditions were during the survey, both along the transects at regular locations, and also at the locations where we encountered menhaden schools.

The bottom left figure there, just gives you a few example sonograms of echograms of individual menhaden schools. You can see they are extremely large and extremely dense, if you are used to looking at these sorts of images. The red indicates very densely packed large school. The map on the right is our study area, outlined in black, and the dashed lines are the transects.

The black dots are the locations of the individual schools of menhaden that we encountered during the survey, and then the red triangles are schools that we encountered when the VIMS crew was

onboard with the fishing vessel, while they were doing normal fishing operations.

Now the one hiccup we had, and there is always a hiccup when you do real field research, is that about half way through our survey, we noticed that suddenly overnight, the menhaden changed their behavior, and they were no longer forming these incredibly big, dense schools near the middle or bottom of the water column.

They were suddenly dispersed as tiny schools near the surface. We could see them in the wheelhouse, but it was really difficult to get over them and actually collect sonar information on them. After much consternation and consultation with oceanographers later, when we got back to port, we discovered that a warm core eddy had moved into the region, and it pushed a big ball of warm saline water up into our study area, right in the middle of our survey, which changed the behavior of menhaden, which we had no idea actually occurred.

The fishermen had said, oh yes, we've seen that before. But they didn't know why they did it. It just suddenly happened. Well, now we know why, and we'll know in the future when we go to survey for them again, hopefully someday that we will monitor those warm eddy mass to make sure we go out in the water at the right time.

But what you can see on the bottom left is a graph of the water temperature, both in the bottom and the surface. The blue bars are the first two transects before that warm core eddy really hit the area, and the red is after. On the graph on the right, is salinity. You can see particularly on the bottom there was a big change, an increase in water temperature and an increase in salinity, about halfway through our survey.

In total though, we were able to catch up to and ensonify and do biological collections on a number of schools, and with that we were able to collect lengths and weights on over 4,000 individual menhaden. Three hundred of those we subsampled, and collected a whole bunch of additional information, including length, weight, but also sex, maturity stage, which was from visual inspection, and then we collected a patch of scales, as well as paired sagittal otoliths. Here we were able to do very extensive paired scale otolith comparison, and do an aging study on them.

I'll just briefly touch on the highlights of our results. The report I provided has all the details for you. But in the bottom left here you can see a plot of the fork length of the individuals that we sampled. The red bars are females and the blue are males, and where they overlap it is purple. You can see that these are much larger animals than we typically encounter in the port samples that make up the majority of the information that goes into the stock assessment.

Our average length of the fish that we encountered was about 270 millimeters, and the average in the reduction fishery is probably about 250 or so, so larger animals, you can see the red bars extend farther to the right. The females therefore tend to be larger than males, which is normal for a fish. But it was exciting to finally see that with menhaden.

On the right you'll see a plot of Beaufort Lab's estimates of the aging, based on scales. You can see there that most of the animals were between ages 3 and 5. We had VIMS and New Jersey DEP age them as well. There wasn't a great agreement among the three labs, but they all agreed that these were primarily ages 3 and 4 fish, which is very different than what we particularly encounter with most of the port samples for the stock assessment, that are mostly ages 1 and 2.

We were encountering large or older fish than we typically see in our sampling programs. A little over half of them were female, but the other big interesting piece of information we were able to gather was that most of these fish were mature, which isn't surprising given their age. But they were currently not spawning, at least most of them.

A small proportion were, but most of them were not spawning. One of the questions that had been raised, or concerns that the Technical Committee had raised earlier on was that, are you going to be

surveying and pestering spawning aggregations. We didn't think that was the case, because we don't in general think that menhaden have spawning aggregations.

The previous work that other folks, including myself has done, looking at ichthyoplankton data indicate that they seem to be spawning pretty continuously up and down the coast, that they don't form spawning aggregations. But this was at least one confirmation, a snapshot in time at least in one area that did not appear to be the case. That was promising.

Then our comparison of the trawl catches to the acoustic estimates of biomass for each school, turned out to be positive as well. Working with industry-grade sonar data is much more labor intensive. We had to do a lot of post processing, compared to scientific-grade sonar, but it's doable. If you look at the graph on the bottom left here, you can see the red bars are the trawl catch made out by Lund's at the dock.

The blue bars are our estimates of biomass for those same exact schools from the acoustic data. They are not exactly the same, you wouldn't expect them to be. But they are close enough that we felt that there is promise in using industry-grade acoustics potentially for future cooperative research. Then of course the big answer everyone wants to know is how many menhaden were out there when we were surveying. What we did was we took the biomass of menhaden encountered in each of those transects, and scaled them up to the entire survey area.

Our estimate ranged from a little less than 8,000 metric tons, which correlated to about 17 million in pounds of menhaden, on the low end, with up to as high as perhaps 11,000 metric tons, which equates to 24 million pounds. That's our estimate for 2022. Just a few notes on that. We think that low end estimate is pretty conservative, because it doesn't account for that effect of the warm core eddy that hit the survey.

Meaning that because we weren't able to actually get estimates of them and their behavior changed the detectability and the catchability, and the survey changed in the middle, and that was a challenge. But we didn't want to try and inflate that too much, so we're most confident in this low-end estimate.

The higher end estimate reflects the spatial modeling that we did to try and account for the effects of that warm core eddy, and the change in water temperature that ensued. It could be as high as that 11,000 metric ton estimate. That being said, that may be an underestimate as well, because we did assume 100 percent catchability in the trawl net, which is likely it's never 100 percent, and we also assume that the sonar was capturing the entire school.

The signal from the entire school, which probably isn't the case either. But we wanted to be conservative, and so these are our estimates, between a little less than 8,000 to 11,000 metric tons. To put that into perspective, the study area biomass that we estimated, is probably only about half of a percent of the Age 1 plus biomass that was estimated in 2022 from the stock assessment itself.

This is a tiny fraction of the coastwide stock. But if you are looking at local management, just for reference, the portion of New Jersey's quota that is allocated the winter trawl fishery is equivalent to about 6 to 9 percent of our estimated study area biomass for 2022. It's a small fraction of what is in New Jersey, but what's in New Jersey in winter is probably a small fraction of the total coastwide biomass.

Just to conclude, I'll wrap up with some of the high points, the takeaway messages from our study, and where we're going next with this. This study is, I think most impactful, in that we finally have fishery independent confirmation that Atlantic menhaden are partial migrants. Some of the stock is staying in the Mid-Atlantic and Southern New England region, based on what we see in the fishery as well.

While the majority may still be going down off of Hatteras, there is an overwintering population of menhaden, and so we are excited to have finally confirmed that with fishery independent data. Again, there is a small portion of the total population that is overwintering off of New Jersey. The estimated study area of biomass was a little less than 8,000 metric tons, and that is large through, compared to the current New Jersey winter trawl quota. But I think the take home message for future research for menhaden would be that we really need to think creatively, and use a nontraditional acoustic survey design, should we continue to do projects like this and surveys for menhaden, or other schooling pelagics like menhaden. If we had run a traditional acoustic design with the budget that we had, we would have said there was no menhaden out there, which we know is simply not true.

If we had used a traditional acoustic design and actually tried to do it at a frequency of number of transects at which we would actually encounter menhaden would be prohibitively expensive. Alternative designs that are simulation tested like ours may be really fruitful in the future, for the future of menhaden research.

Our next steps with this, we have our aging team on the project at Beaufort and VIMS and New Jersey DEP are working to develop best practices for aging these older menhaden that folks don't normally see in the port samples. They are going to try and come to some consensus on how best to handle these types of older fish, using both scales and otoliths for the future.

Then I'm happy to report that Dr. Amy Schueller, who is the lead assessment scientist on the stock assessment, and I, were recently funded, again by the Science Center for Marine Fisheries, to do a comprehensive study of all the available size-at-age information for Atlantic menhaden on the coast, to try and get a better estimate of time varying growth and both length at age and weight at age for potential future use in the stock assessment. With that, I would be happy to answer any questions you might have and the Chair is willing.

CHAIR McMANUS: Thank you, Genny, for a great presentation. I will look to see if the Board has any questions for Genny on her work. Yes.

MR. ROBERT LaFRANCE: There was a Figure 6, where you showed where there was red triangles and then black dots. Was that just a timing function? It seemed to me that the reds were all sort of in the same location. I was wondering if there was any rational basis for that.

DR. NESSLAGE: Absolutely, yes. The black dots were the schools that we encountered along the fishery independent survey, when it was actually the survey design, and we were following all of our protocols. We had a few extra sea days at the end, and that's where the VIMS crew went out with the fishermen while they were just fishing, and those are the red triangles.

You could see this is why we don't usually use fishery dependent data, but we go a lot of great bio samples from that, and we got several, basically echograms off of that, and that gave us a lot of good information on how to better move forward with analyzing those data. But they were not included in the biomass estimate.

MR. LaFRANCE: Thank you very much, that is really helpful.

CHAIR McMANUS: Any other questions? Yes, Allison.

MS. ALLISON COLDEN: Thank you so much for the presentation, Genny, really great work. Two quick questions for you. One, what was the size of the total area included in that polygon, if you know.

DR. NESSLAGE: Off the top of my head, I don't know, but I can get back to you. Sorry.

MS. HELPLER: Yes, that would be great, just to understand sort of the area that was being sampled. My second question you touched on a little bit at the end, but I was wondering if you could walk us through it and explain a little bit more. My question was going to be about whether or not the

transect overlapped, like the sonar coverage overlapped, and it's not how you chose the number of transects that you chose. I think you started to touch on it at the end, the approach that you took. Would you mind just sort of reiterating some points about how you decided that sample design?

DR. NESSLAGE: Sure, so in the 2020 work that we did, doing the simulation testing of alternative designs. That work indicated that based on, at least the data we had available, which were VTRs from the fishery, NEFOP locations of bycatch of menhaden, and the environmental data that is available in that region.

When we simulation tested alternative designs, it indicated that this was the amount of essentially mileage we would need to run the vessel, in order to encounter menhaden with that search area, that broadened search area. In fact, at the time, I can tell you that they had a less strong sonar, omnidirectional sonar on board, so when we did the simulation testing, actually the search area was shorter.

We've actually sampled a bit more than we had originally anticipated. Basically, the simulation study indicated that this would be adequate to get a decent estimate with I think the CD with maybe 25 percent with this number of kilometers of area surveyed. The locations were selected within a random start for the first transect, and then we tried to space them out evenly across the study area, so that they weren't overlapping.

This is the most basic design, and it's kind of the recommendation with initial pilot studies for acoustic surveys. Once you get an initial set of data, you can then do fancier designs, once you kind of know roughly what's out there. But this is kind of the first step in a new area you want to try and get that broad coverage, to figure out kind of what the variances of the school encounter rates are.

Then I think you asked if there was overlap. We don't expect, I can't remember off the top of my head. It was how many kilometers apart they were. But it should be enough that the menhaden school shouldn't be moving between them in the timeframe, when we're going from one transect to another. That being said, we did have to be off the water for two days, due to a storm, so who knows what happened during those two days. But in general, they should be adequately spaced.

CHAIR McMANUS: I'll next go to Lynn and then I'll come to the Senator here.

MS. LYNN FEGLEY: Thank you, Dr. Nesslage, this is really nice to see you and great work to you and the whole team. I just want to put a plug in. I'm a really big believer in the FK Mission, and I think this is such a really great example of how your industry and science is working together. This is really fascinating to me, and the two words that come to mind when I see this is cryptic biomass. I just wonder, and maybe you can't answer this, but I do wonder if you have any inclination that this may make impact the selectivity curves that are used in the stock assessment? It's just a thought, and I'm just curious.

DR. NESSLAGE: I don't think I can speak to whether this would impact the stock assessment. I don't think it would, per se, but my mind is traveling back to the pre, was it 2015 assessment, where we did change the selectivity curves, and we did that based on a very coarse assumption based on, I think it was the bycatch estimates of larger menhaden in the northern region of the stock assessment.

This really kind of was indicating at the end here. We finally have really good solid data that yes indeed there are bigger, older animals hanging out up in the northern part of the range. This won't actually impact the shape of a curve, per se, but at least it gives us some confirmation that we made the right decision, I think. Does that answer your question?

CHAIR McMANUS: Yes, Senator.

SENATOR: Is there data over time on any trendlines in the temperature, salinity or dissolved oxygen? I also wondered whether you had any data on pH for acidification.

DR. NESSLAGE: I'll answer the last pH first, no on pH. We only got temperature, DO and salinity. But you asked about time trends. We were only out there over about a month period, several weeks where we were collecting the hydrographic data. I have been scrambling to try and find people who have actual long time series or time series from that region offshore, and it is actually kind of difficult to find.

The Ecoman folks go into there every once in a while, but it is really not well monitored. Most of our understanding of what the ocean conditions are in that region are satellite driven, or from models. Does that get at your question? Yes, unfortunately, because I really wanted more information on that one core eddy coming in. I'm glad we took that information, otherwise we wouldn't have any idea what was going on when we were out there. But it was a snapshot in time, it's not a time series.

CHAIR McMANUS: Any other questions? Yes, Craig.

MR. CRAIG PUGH: I guess this is set to happen again? No, well that's a shame. I'm not impressed very easy, that is pretty impressive what you put up there today. That's good information. If you have a chance to do this, and you're looking for that upwelling again. As a fisherman, I would say cyclically within the moon phases of when your attention was paid.

If you repeat that again, you may find that upwelling again. With that you would begin to see a more consistent in what we find is in our catches. It can become more consistent, but that is really like a proprietary secret that most of those fishermen have. We don't offer up very much, but if you want your data collection to be accurate, you better be cyclically on the same deck. What I'm trying to say, if we took these surveys today on April 30th, that would not be the same as April 30th next year. But cyclically you can find that within the moon phase. You'll see that there is tidal influence will put those fish in a certain spot for you, and it will be much, much more consistent data. A lot of commercial fishermen are probably very sorry that I just said that. Thank you.

CHAIR McMANUS: Any other questions or comments for Genny from the Board? Thank you, Genny, very much for the presentation. I recommend public or Board if you have a follow up question for the doctor, say it now.

UPDATES FROM STATE MANAGEMENT PROGRAMS

CHAIR McMANUS: With that, that moves us on to our next agenda, which is Update from State Management Programs for Maryland and Virginia. I'll first look to Lynn Fegley.

MARYLAND

MS. FEGLEY: For this update, I don't have a whole lot to offer, other than what I offered at the last meeting, and that is to say that we are currently working on a communications tool around the balance of menhaden and striped bass in the Maryland portion of the Chesapeake Bay. It's a traffic light index analysis.

I think it's a really elegant piece of work that is not designed for management, but is designed to really present a synthesis of data that we've collected over the years, and will continue to collect, that just demonstrate how we are seeing the balance of these two animals, and our attention now is we are setting up to get it out for an independent desk review.

We want to make sure that we have independent scientists really ensuring that we are applying the data in a neutral, nonbiased way, and that our treatment of the data is fair. We're hoping that maybe we can launch this thing in the fall. I don't have a lot more to offer than that right now. I will say that the index includes information from striped bass, things like striped bass body condition, levels of relative F of menhaden.

One of the things that we've looked sort of high and low to find to include in this analysis, are data about osprey. We haven't really managed to find the right dataset to fit into that. I just bring that up now, because under other business I had a few more comments to make about that. That is really the only updates we have, Mr. Chair.

CHIR McMANUS: Thank you, Lynn, I'll look to Pat for an update from Virginia next.

VIRGINIA

MR. PAT GEER: In your supplemental materials there is a letter that I provided to the Commission, with information from this year. Last year, if you remember, at the May 1st meeting, I gave a pretty comprehensive presentation of what we've done in the past. But as far as last year, what we did was in December '22, we had a Commission meeting where we were going to put forth some spatial and temporal restrictions on the purse seine fleet. Our Board did not approve that, but they approved the development of a Memorandum of Understanding.

That was approved last April 20th, between Virginia Marine Resources Commission, the bait and the reduction fleets., to provide some protection with the one nautical mile buffer around some of the beaches, some of the areas that are publicly used in the summertime, and some temporal restrictions of not fishing in the Bay on weekends and on holidays. The purpose of that was to try to prevent spills by having them fish in slightly deeper waters. Then also, if there is a spill, having it a little bit further from shore. That seemed to work. Ocean harvesters were also going to, they worked with us to improve their spill response. Ocean harvesters have purchased a skimmer boat that in case there was a spill they can respond immediately to get out there and try to collect those fish before they do come to shore. I'm very happy to say in 2023, we did not have any spills at all. We did not have any reported spills to us, and that is the first time since we started keeping good records on spills since 2016. Part of the 2023 General Assembly, there was a Senate bill.

Senate Bill 1388, which requested VIMS to create a plan on how to study menhaden, so to come up with a plan, a budget to involve the ecology, the fisheries impacts, and the economic impacts on menhaden. As a result of that, Bob Latour and some of my staff worked on a workshop that was held August 8 and 9 at William and Mary. It was attended by 21 scientists, resource managers, recreational fishermen, different sectors of the fishery, and NGOs, to discuss the priority needs in the Chesapeake Bay in Virginia for menhaden.

The group came up with nine issues in three categories; ecology, fisheries impacts, and the economic importance. The total price tag for those nine projects was about 2.5 million dollars over three years. Moving forward to this General Assembly Session, we had a House Bill 19, which was put forth to fund those projects, at least fund some of them.

It went forward, it went into Committee. Unfortunately, the Rules Committee decided to table it until 2025. But at least now, if you look at the letter I wrote, there is a link to the research there. They did a really good job these nine priorities. We have a plan. We just have the chart one running forward.

There was another bill that was introduced, House Bill 928, which addressed interference with commercial fishermen. There were a number of alarming videos that surfaced of watercraft approaching commercial vessels, interfering with their nets, interfering with their vessels, and actually going over their nets.

You can hear the verbal attacks on the commercial fisheries, the vessels themselves, and the people onboard. This Bill raises the penalty for people found guilty of that to a Class 1 misdemeanor, which is a $2,500.00 fine or up to one year in jail, and also revocation of all their fishing and hunting privileges in the state for one year.

It was passed by the General Assembly unanimously, and the Governor signed off on that. We've had a couple of petitions. Some of the commenters mentioned these. This is a relatively new process for us, it's in the Code of Virginia that allows the public to request changes or repeals to existing regulations. Somebody can make a request to a specific agency, and then it goes to the Register, you only have 12 days to upload the petition onto what is called the Virginia Town Hall website.

It is up there for 21 days. People can read the petition; they can provide whatever comments they want for 21 days on that petition. Then afterwards, the Agency in question has 90 days to issue a written decision on whether to grant or deny that petition, so it's a yes or no. A simple yes or no, if they say yes, then that agency moves forward with regulatory process. We had one on June 27, which was a petition to regulate menhaden purse seines and ensure they are fished in a proper manner and an appropriate depth. The petitioner said the nets are too deep to be fishing in the Chesapeake Bay, and that they don't leave enough room for non-target species to escape, and they are affecting the bottom habitats. That went before our Board in October 26, and VMRC denied the petition with a 5 to 1 vote. In December '21, we received a second petition, which is much more detailed.

It had five issues, one to enact a moratorium on the reduction purse seine in the Bay. Two, require at least 40 percent of the Virginia reduction harvest come from federal waters. Three, codify the one-nautical mile buffer in regulations, which is now listed in MOU. Four, to fund the implement of the population studies proposed by VIMS, and five, establish a proper industry oversight, increase harvesting of bycatch monitoring.

The 21-day comment period ended on February 5, and the Commission heard it just last Tuesday on April 21. There was a lively discussion about it, and the petition was denied 5 to 3. We're also seeing quite a few more public interactions. We've had 11 FOIA requests for menhaden in the last year. We're spending a fair amount of time.

You know these petitions take a lot of our time when they come forward, because we have to deal with those. We're seeing a lot more folks showing up at our Commission meetings, speaking during public comments that are not on the agenda as well. That is all I have at this point. We're hoping that somewhere along the line we can get funding for some of those projects that the folks on the workshop provide.

CHAIR McMANUS: Thank you both, Lynn and Pat. Based on some of the discussions we'll have in our next agenda item, what I would like to do is move into that presentation now. Then the Board can have discussion or comments on both for Lynn and Pat as necessary, or as needed. Then as well for Katie.

PROGRESS UPDATE ON 2025 STOCK ASSESSMENTS

CHAIR McMANUS: With that, I'll look to Katie to give us a Progress Updates on the 2025 Stock Assessment.

DR. KATIE DREW: As mentioned, I'm going to be providing an update on the current stock assessment progress, as well as talk a little bit about kind of the next steps after that assessment, where we think we'll end up, in terms of any spatial reference points or more spatial information to inform the Board, as well as some information on next steps that management should consider. Our current timeline is up on the screen right now.

We most recently had a Data and Methods Workshop in October of 2023, which I'll go into some of the discussion and results of that workshop in my next slide. But we are currently right now in the process of gathering data to support the single-species assessment update, as well as the multi-species assessment that are going to support the ERP model.

At the end of this timeline, you will see we are anticipating presenting this to the Board at the annual meeting in 2025. Following the peer review, which will be through the SEDAR process in the summer, August of 2025. Our next big workshop is going to be the Methods Workshop Part II, in October of 2024, which is going to include one day for the SAS to discuss the assessment update, and then the rest of the time will be the ERP Workgroup on the ERP assessment.

ECOLOGICAL REFERENCE POINT BENCHMARK ASSESSMENT

DR. KATIE DREW: The next thing I wanted to talk about a little bit is basically, what did we talk about

tat the Data and Methods Workshop, to give you an idea of where we're going with the ERP benchmark assessment. We met in October to review potential new data sources and discuss high priority models of relevant tasks. A more detailed meeting summary is available online, but I'm just going to go through a few highlights of what was brought to us going forward.

As you know, we encouraged and in fact put out a call for data for external collaborators, or external researchers to bring data to these assessments, for all of our assessments, so that it is not just what did we use before in the past, what do we know that the state and the feds have. We have an opportunity to bring in other data sources. I'll go over some of the important ones that were presented from external researchers.

The Nesslage et al Survey was not considered for inclusion in the assessment, due to the short time period. This is basically just a snapshot of a pilot study. It really wasn't suitable for the assessment as a whole. But some of the weight-at-age information from that study showed some discrepancies with the weight used in the single species assessment.

The ERP Workgroup recommended that the SAS explore this particular issue in more depth, using additional data sources as part of the assessment update. The ERP Workgroup remanded that to the SAS for further consideration. The next data source that was brought to us was from Dr. Ault, and so his colleagues presenting a reanalysis of the tagging data used to develop estimates of menhaden natural mortality.

That resulted in a lower natural mortality than when he was using a different subset of the data and different methods. This is compared to what is currently used in the single-species assessment. The ERP Workgroup remanded this to the SAS as well, kind of recommending that some additional work be done to understand the differences between the datasets in question, and conduct a sensitivity run with a lower natural mortality for consideration in the ERP model.

The next dataset was some information presented by Dr. Watts on the relationship between menhaden and osprey in the Chesapeake Bay, and other nearshore types of piscivorous birds that he's worked on. As well as the ERP Workgroup reviewed some additional literature on marine mammal diet. Overall, the ERP Workgroup found that the marine mammal and bird diet data and abundance data are still extremely limited coastwide.

We have some good very localized studies of individual aspects of this relationship. But overall, the data are very limited. The ERP recommended doing a comprehensive review of the existing data for birds and marine mammals, to update the NWACS-Full model, that is the full EWE model, as a complement to the NWACS-MICE model. But at this point, not including birds or marine mammals in the NWACS-MICE model.

Instead, we'll look to that sort of full comprehensive NWACS-Full model to support or provide context for the results from the NWACS-MICE model. Similarly, the ERP Workgroup reviewed new diet information on bluefin tuna and blue catfish, as potential additional predators within these models, and recommended exploring the inclusion of bluefin tuna further, as the data were insufficient, but not blue catfish for this assessment. The more comprehensive diet data studies for blue catfish, indicated that menhaden was actually a relatively small component of their overall diet, and the geographical overlap with menhaden was limited, basically to freshwater, less saline parts of the Chesapeake Bay. At this point, there is not a lot to be gained from including blue catfish in the NWACS-MICE model. We may come back to this decision for future assessments as the spatial skills of blue catfish extends, or as the spatial extent of the NWACS-MICE model changes. But at this point we did not feel that that warranted inclusion. Those were the source of new data sources we examined, or at least the important high-profile ones.

In terms of high priority modeling tasks, the ERP Workgroup identified the following as things we want to make sure we accomplish for this benchmark. Number one, incorporating seasonal

dynamics into the NWACS-MICE model to better capture predator and prey temporal overlaps. Right now, we're just using an annual time step.

The intent would be to go down to a monthly or seasonal time step, to better capture some of that interactive, some of those overlaps, especially in some of the things like the Atlantic herring and striped bass overlap, which is a very intense relationship during certain times of the years, but has less overlap during other parts of the year.

In addition, we would like to incorporate bottom-up feedback into the VADER multispecies statistical catch at age model as a complement to NWACS-MICE model, and to further develop that modeling framework, as recommended by the Peer Review Panel, as well as continue development and testing of a model that was not considered last time, but might be useful this time around.

The Wilberg et al age structured predator prey simulation model would provide some interesting simulation capacity to support the NWACS-MICE and data model. Additional high priority modeling tasks include the incorporation of spatial dynamics into the NWACS-MICE model during this benchmark.

D. Chagaris et al have been funded through an S-K Grant to do this work for us, which will give us a lot more dedicated time from that group, in order to advance this model. In addition, the ERP Workgroup is going to work on gathering additional data, and reworking existing multispecies data, to support a finer seasonal and spatial scale for model development. That covers sort of where we are with the multispecies, the ERP, benchmark assessment.

ATLANTIC MENHADEN SINGLE-SPECIES ASSESSMENT UPDATE

DR. DREW: I'm going to give a quick update on the single-species assessment update. At this point fishery independent data through 2023 have been submitted. Fishery dependent data are due, essentially this month, and we are trying to have the base model runs completed in time for the October, 2024 Assessment or Methods Workshop. In terms of the tasks that the SAS got from the ERP Workgroup. The task requested all available weight and age data from the states, and ended up with a very limited data to evaluate the species for the 2025 update.

I think most of the work to resolve that question is probably going to have to come from the Nesslage and Schueller Project that was recently funded. In terms of natural mortality, the staff determined that changing M was not warranted at this time, as the current M is based on a peer reviewed study that also was reviewed and accepted by the Peer Review Panel at the last benchmark assessment. But number one, we'll conduct some alternate runs with a lower M estimate to support the ERP work, and we'll look further into the discrepancies between the data sources and other issues for the differences in the M estimates, to help resolve this issue going forward. I'm going to pivot a little bit now from sort of what has happened to what will happen, and what is going to happen going forward, to talk a little bit about the spatial ERP timeline.

This iteration of the NWACS-MICE model will incorporate more information on seasonal and spatial dynamics into the ERPs for this benchmark. However, the BAM single-species model will remain a coastwide model. There just is not time to develop a spatial model for the BAM. If you remember this timeline from the ERP Workgroup memo.

We presented this in April of 2021, I think when we were initially talking about this, that as we want to develop more spatial ERPs that can provide a quantitative estimate of what makes up what the Bay cap is, or more quantitative information on what's happening in the Bay. There is sort of different scales of approaches, ranging from sort of a more coarse spatial scale with minimal additional data requirements, down to a very fine spatial scale that will have significant additional data and modeling requirements.

The timeline for most of that was sort of between five years and ten years, ten plus years, depending on the options that we chose. The Board decision at the time was not to delay the 2025 assessment, in order to pursue any of those spatial options, but instead sort of go forward and stay to the 2025 timeline.

The option that we're sort of going forward with was not actually on that list, as you may have noticed. We're going with a more spatially explicit NWACS-MICE model to get more spatially informed CRPs, but we will still be using the coastwide BAM, or the coastwide single-species model. The ERPs will definitely be improved by this.

We'll have a more refined reference point that will better capture the spatial and seasonal dynamics of menhaden, and their key predators, and help us get to a reference point that is better scientifically. But it likely will not provide quantitative advice about the Bay cap. We'll still be working within sort of a coastwide reference point system. What we will get out at the end, sort of in a management framework, is going to at the 2025 annual meeting, you will receive.

I will give or my team will give a presentation of the ERP and the Single-Species Assessment. This will give the Board; the Board will actually have a chance to kind of reconsider the target and threshold reference point definition for ERPs at this meeting. This is a little different from many of our other single-species approaches, where we come to you and we say, here is your reference points, here is your F-40 percent and your SSB-40 percent, this is your target and your threshold.

That's it, it's been updated, it has new information, but sort of that definition is the same. If you recall, the tool that we provided through this process is really giving you ways to evaluate the tradeoffs between menhaden harvest and predator abundance, and the allowable predator fishing mortality rates. The current definition for our ERPs is that this is our target, the F rates that will allow striped bass to stay at their biomass target, when striped bass are fished at their F target, and all the other species in the model are fished as sort of the status quo in 2017. That is one possible definition. That is the definition we went forward with. I think at this point, you know when we come back to you, we will again present this tool, and the Board will have the option of considering potential other definitions, in terms of what should the F rates on striped bass be? What should the F rates on other species in the model be, when we are defining what our menhaden reference points should be?

The Board is not obligated to change in any way. I think the definition that we have right now is still a viable definition on the table. But the Board will have the opportunity to reconsider some of those management tradeoffs and management objectives within this ecosystem framework, at that 2025 annual meeting.

Changes to the reference points can be made through the Board actions or through adaptive management. You also have to do specifications at this meeting, which may make trying to change that definition a little more complicated. We'll try to make the options on the table as easy as possible for you guys. But I think we just wanted to highlight that this is a complex system with a lot of moving parts.

We won't have quantitative advice, probably on the Bay cap at that point. Although there are always other qualitative approaches that this Board can take, and we'll be presenting a tool that is maybe a little more complicated than the traditional SPR based reference points that we have for our single species assessment. There are a lot of moving parts that are going to come together at this meeting, and a lot of things for the Board to think about.

I'm not saying you have to start this conversation now. We do still have a year and a half to figure out a lot of these issues. But just to kind of prepare this in everyone's mind for kind of what's coming down the road; where we are now, where we're going, and where you guys are going to have to make some decisions, in terms of management objectives in about a year and a half. With that I am happy to take any questions.

CHAIR McMANUS: Thank you, Dr. Drew. With that, are there any comments or questions for the Board for Katie, Lynn or Pat? Yes.

BOARD MEMBER: Related to the final questions about striped bass. How do you think this model will help us to be able to evaluate that relationship when we get the report in 2025?

DR. DREW: You mean the relationship between striped bass and menhaden fishing mortality? I mean I think the goal is the tool that we have now, and the goal is to have a more refined version of that tool that basically looked at, as you increase fishing mortality on menhaden, what happens to striped bass? As you increase fishing mortality on striped bass, what happens to striped bass, so that you can sort of find that balance.

It is a tradeoff, right. You can put more fishing pressure on menhaden and you have to feed back off of the fishing pressure on striped bass, in order to keep them at sort of the same level. That is all interconnected. It is not just a matter of turning one knob, there are multiple knobs within this system to turn. I think the goal of our tools is to help everybody understand these relationships between, you can adjust the fishing mortality on one of them, but you're not doing that in a vacuum. Right now, a single-species model sort of assumes we are doing it in a vacuum. With the ERPs you can turn multiple knobs at a time, and figure out what is sort of a balance between fishing pressure on menhaden and fishing pressure on striped bass that gets to where you want to be for striped bass. I don't know if that helps or not.

BOARD MEMBER: Let me just follow up. You think there is enough synchronicity between the menhaden and the striped bass assessments to make that useful?

DR. DREW: Yes. Right now, we will have an assessment update, as you know this year for striped bass, which means we'll have data through 2023 that aligns with, we're aiming to have a 2023 terminal year for menhaden as well, and we will have that for most of the other species, either 2022 or 2023 terminal year for our other key species in the NWACS-MICE Model. But that is definitely something we try to keep an eye on, is to make sure that we're not waiting on data from any one species in order to manage.

CHAIR McMANUS: Any other questions or comments? Yes, Al.

MS. COLDEN: Thanks to all of you for your updates. Katie, I do have a couple of follow up questions related to the mortality estimates that you were talking about natural mortality estimates, that there was some uncertainty here, or inconsistencies here based on the analysis method. Just, I'm sure it is from a functional perspective. What would a lower natural mortality rate tend to lead to, in terms of the outcomes of the assessment?

DR. DREW: Perhaps unintuitively, if you use a lower natural mortality rate in these models, in the single-species model, you're going to get a lower estimate of biomass or abundance of menhaden coming out. Right now, that we're using the higher estimate. When we implemented that higher estimate of M, we saw an increase overall in the scale of the population. That effect, the scale of the population and our perception of that population for the single-species model, and then feeding into the multi-species model.

How many menhaden are out there for those other predators to be influenced by, or to have available to them to consume? Using a lower natural mortality is going to make the population smaller and have less menhaden over the full time series available to those other predators. It's hard to say exactly what the effect will be, in terms of for the multi-species model, generally speaking on the single-species model, when you use a lower M, you usually get higher estimates of fishing mortality as well. Follow up.

MS. COLDEN: Based on the existing natural mortality estimate that is being used, and the one that was proposed in the Data Workshop. Do you have any kind of scale of the differences between those two, kind of what is the relative magnitude of

the different season estimates that you're considering, either directly from those or in the sensitivity runs.

DR. DREW: I don't have the exact proportion, and the other issue is of course the estimates that are in these studies are just a single estimate of natural mortality. In the assessment scale that is more to match the Lorenzen so you have higher natural mortality on the in the assessment scale that is more to match the Lorenzen. You have higher natural mortality on the younger fish, and lower natural mortality on the older fish, which hasn't really been carried through for these other studies. But it is a significantly higher estimate of M. This was pretty extensively addressed during the last peer review, so there is some report in the benchmark document showing some of those comparisons to what has been used in the past, and the current estimate of M used now.

CHAIR McMANUS: Yes, John Clark.

MR. JOHN CLARK: I hope I'm remembering this correctly but the current TRP, the NWACS-MICE, it doesn't directly produce a multispecies reference point, right? It's like advice as how we can change our fishing mortality on the menhaden, based on the other species. Now the other models you were talking about, the VADER and what was the other one? Are those more set up to directly estimate reference points, based on the entire predation on the menhaden? If so, is that the goal is to eventually get to that, or is it still just to use the NWACS-MICE?

DR. DREW: I would think, the NWACS-MICE does give us a reference point, but it sort of has to be translated back into the currency of the single-species model. The NWACS-MICE model is very good at capturing those predator/prey dynamics, and helps you understand, you know, as I was saying, does the increase have on the menhaden?

What does that do to the other species in the model? If you increase half on striped bass how does that best influence striped bass and the data? How does that all tie together, so that you can sort of figure out in the long term, if you fish at a specific rate on menhaden and a specific rate on striped bass, where is that striped bass population going to stabilize?

You can adjust those knobs until in the long term the striped bass population will stabilize at its target. The issue is that the NWACS-MICE model, the EWE models are not good at capturing sort of really short-term dynamic changes in recruitment for or populations affect. They are better for long term.

Like all of our reference points models, they are better for sort of long-term stability and an end goal. We use the BAM, the single-species model that is really good at capturing sort of the short-term dynamics of menhaden, what's going on right now, what's going on in the next couple of years. What happened in the past based on that dynamic recruitment, and other things.

We use that to sort of, we take the information that we get out of the NWACS-MICE model about, you know what is our long-term F rate that we want to stay at, and use the BAM model to figure out what is the appropriate quota to keep you at that F rate. We're using sort of these two models in combination, because they give each other things that the other one is not good at. Predator/prey dynamics on the NWACS-MICE side, short-term recruitment is better dynamics of the scale on the BAM side.

The VADER model is a multispecies statistical catch at age model, and I think the long-term goal of that would be to develop a model that could do it all in one. The multi-species model is one potential approach that can do that. If it is capable of handling some of those short-term recruitment dynamics and things like that within its own framework. However, it right now is missing the bottom-up feedback that says, you know right now it is basically only looking at how much are these predators' affecting menhaden, and not looking at how menhaden is affecting the predators. That is a real hard challenge to build into that type of model, and so that is kind of I think the long-term goal

would be to try to get something where you could do it all in one comprehensive model.

Whether that is, can we get better recruitment dynamics in our EWE models or is it can we get predator/pretty dynamics in our multispecies statistical catch at age model? That is why we're continuing to develop both of them at the same time. I think it's kind of just a matter of, what will be done in time for management by the benchmark, in terms of what we actually bring to you as a final result.

CHAIR McMANUS: Yes, Rob LaFrance.

MR. LaFRANCE: Thank you, Katie, really interesting stuff that you are working on with these. One of the things you mentioned though is there will be some spatial data that is going to be created as a function of this. Is there any information we can glean from that? Even though I know it's recognized we're going to be looking at a coastwide, still a coastwide ecological reference point.

But is there any descriptive information we might be able to get, like looking at particular measures, in terms of maybe the south looks different than say the Mid-Atlantic versus the North Atlantic? Is there any information we might be coming out of that, and just ask those questions all at the same time? Have we looked at data or are we looking at any data coming in from offshore wind? Are they providing you any information on any of these species?

DR. DREW: I guess the short answer to the second one is an easy no. We don't have any information from that offshore wind development coming into these models. I think ideally, we would like to be able to look at maybe some of the dynamics of, yes spatially sort of in this with the reference point model in the long term of what is the effect of more intense fishing pressure in the Bay versus offshore more intense in the north versus in the south. If recruitment is increasing in the north and has been low in the Chesapeake Bay, can we pick up those dynamics?

I think the reference points will definitely be improved by incorporating some of these spatial dynamics, and our understanding of the system will be improved. But we may not have the ability to do that and to link that back to say, and therefore checked in the Bay, it may still end up being a coastwide quota, and we'll have to look to other methods if we want anything spatial on the Bay.

MR. LaFRANCE: Will we have any sort of sensitivity to that? Will there be some output from that or not really?

DR. DREW: I mean we can definitely look into that. I think there is also the question of we haven't done this full model development, and I think we also are a little bit unsure of sort of the quality of the data that will come in at that spatial scale. We can look into doing some of that sensitivity stuff. How informative it will be will depend on the quality of the data and the performance of the model. But hopefully we can improve our spatial understanding in some way.

MR. LaFRANCE: Great answer, thank you.

CHAIR McMANUS: Allison Colden.

MS. COLDEN: Thank you, Mr. Chair, I appreciate a second round here. I'm really excited about all of the work that has been presented here. I know that the spatial dynamics and the temporal dynamics have been a priority ever since we got the first round of the ERP model, so I'm happy to see that moving forward.

But coming from one of the Bay jurisdictions, Chesapeake Bay jurisdiction, I feel like I would be remiss if I didn't point out the number of times Katie, you had to specify that this will not get us any additional quantitative data on the Chesapeake Bay. I'm sort of searching here for a solution.

We have 5 to 7 years of work in front of us in order to get from core spatial data resolution, which we'll hopefully get coastwide in this model, to anything even close to coming in offshore and looking at specific nursery areas like the Chesapeake Bay and

other places. We also heard from Maryland and Virginia that the efforts that they are working on to try and either synthesize our understanding or provide guidance or get to the science are hitting bumps at every turn.

Virginia is on the study, Maryland has put together a great synthesis of data that we have, but it's not intended for management and is focused only on striped bass. We have significant concerns in the Bay region, particularly with species like osprey that are not included in the ERPs, and are not directly included in the NWACS-MICE model, and according to those updates won't be included in this next round of the NWACS-MICE model either.

I just want to flag that there are some of these significant concerns, including other datasets that we have found recently that have not been included in previous rounds of this. I want to just flag for the Board that I think that there is some serious consideration to be given for these ecosystem concerns in the Chesapeake Bay, and the fact that they won't be addressed through some of the assessment work that is going on now, and some of the work that the states are working on. I just want to keep that in front of mind for everyone.

CHAIR McMANUS: Thank you, Allison. Are there any other comments or questions from the Board? All right, seeing none.

ELECT VICE-CHAIR

CHAIR McMANUS: That moves us on to our next item for electing a Vice-Chair. Move to see from the Board if there are any nominations to put forth. Yes, Jeff Kaelin.

MR. JEFF KAELIN: I **move to nominate John Barnes as Vice-Chair for the Atlantic Menhaden Management Board.**

CHAIR McMANUS: Do I have a second? Move to nominate John Clark as Vice-Chair?

MR. KAELIN: **Did I say Barnes? I'm sorry**. That's an old, old name, an old menhaden name. **I'm sorry about that, John Clark**. Wow, I don't know where that came from, senior moment. Sorry about that senior moment, John Barnes is long gone.

CHAIR McMANUS: Thank you, do I have a second? Yes, thank you, Steve Train. **Any opposition to the motion? All right, I will consider that approved by consent**. Thank you, Jeff and Steve Train.

OTHER BUSINESS

CHAIR McMANUS: With that, that brings us to Other Business. Is there any other business to bring forth? Yes, Lynn Fegley.

USGS OSPREY DATA

MS. FEGLEY: I'm going to try to be quick about this so we can move on to horseshoe crabs. I mentioned in our update that we've been working on this data synthesis. We have been looking for osprey data in the Maryland portion of Chesapeake Bay. We have been looking hard at the osprey data coming out of Virginia that is showing nesting success issues. I did have a conversation with USGS, and they have scientists who are planning to do some follow on with osprey research further up in the Maryland portion of the Bay.

Upon talking with them, it appears that they do have some data, which may be of interest. I say that, because it does seem to me that if we really are having a problem with ospreys in our area, and if there is something about the way that we are managing menhaden, that could be impacting the bird resource. I think we really need to know about it.

I think it's incumbent upon us to get as much information as we can. I have a request for staff, and I'm happy to gather offline if I can help, and that is to reach out to USGS to the Eastern Ecologic Science Center, and request for August, if they could present to us the information that they have on osprey in the Bay region.

That would specifically be data around the spatial and temporal distribution of osprey, anything they know about dietary demands of osprey, the timing

of the osprey fledge, and anything they know about nesting success. That was my other question, Mr. Chair, and I'll leave it there. If I need to make a motion, I will.

CHAIR McMANUS: Thank you, Lynn. I'll look to Katie really quick to provide comment on that, and then I can look to the Board for further discussion as necessary.

DR. DREW: Yes, I think we can definitely reach out to USGS and arrange for a presentation to the Board, if that is of interest, as well as ensuring that the USGS science is looped into the ERP framework, as necessary or where appropriate. You know I think we are aware of some of their data, probably not all of their data. I think it would be good to close the loop on that as part of the assessment process. As long as I think the ask, to like have them do the work of presenting this to you. I think that's feasible, and would not impact the ERP timeline in any way.

CHAIR McMANUS: Thank you, Katie, Craig Pugh.

MR. PUGH: I don't mean to convolute this. I know it's anecdotal, but in our area the osprey seems to be in direct competition with the increased population of bald eagles. The osprey is a much, much better fisherman than the bald eagle is. The bald eagle either attempts or does take food away from the osprey. We've witnessed this daily, repetitively, over and over and over. There is another bird here that is involved, at a pretty high level. We experience this every day. We can witness this; we can watch it. The bald eagle population in our area is probably ten times over what the osprey, and it's increasing.

CHAIR McMANUS: Thank you, Craig. Are there any other additional comments on this topic? Yes.

MR. LOREN W. LUSTIG: I just wanted to thank Lynn and Allison specifically for bringing up issues regarding the osprey. I've been trying to monitor that personally. I did come across some data recently from areas near Long Island and New York, and apparently the breeding success is much higher there. It would be interesting to follow that up.

CHAIR McMANUS: Any other questions or comments from the Board? It sounds like there is a request to have staff be engaged in dialogue with USGS regarding osprey data, and it sounds like there is amenability to that on the Commission side. Anyone strongly opposed to doing such? I'm not seeing any hands, so I think we can consider that to move forward.

ADJOURNMENT

CHAIR McMANUS: Is there any other business beyond that topic that folks have? I'm not seeing any hands online or in person. Is there a motion to adjourn? Yes, John Clark and seconded by Cheri Patterson.

(Whereupon the meeting adjourned at 2:45 p.m. on Tuesday, April 30, 2024)

From:	Denny
To:	Comments
Cc:	Phil Zalesak
Subject:	[External] Industrial Reduction Fishery of Atlantic Menhaden
Date:	Saturday, July 6, 2024 10:52:27 AM
Attachments:	2024-0704 Localized Depletion of Atlantic Menhaden - Power Point Slides.pdf

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As a resident of Maryland living on the western shore of the Chesapeake Bay, I am writing to express my displeasure with ASMFC's handling of reduction fishing by Omega Protein (a subsidiary of Cooke Inc., a Canadian company) along the eastern seaboard of the USA and in the waters of the Chesapeake Bay. Your Commission is allowing far too great a harvest of Menhaden from these waters. This overfishing has had a drastic impact on the populations of game fish (particularly striped bass) and birds (particularly Osprey) in our waters and continues today due to your mismanagement. See attached slides. I urge you to take action to (at a minimum) restrict reduction fishing activities to federal waters outside the three-mile US territorial limit, including elimination of the catch from the Chesapeake. Better yet, rule that the (clearly) Canadian ownership of this enterprise by Cooke Seafood is a violation of the Jones Act and is not allowed in any US waters.

Regards,
Dennis A. Lott
Commander, USN (Ret)
PO Box 229
Dameron, MD 20628

Mr. Chairman and Members of the ASMFC Atlantic Menhaden Board,

My Name is Dale William Neal. I am a conservation advocate for Atlantic and Gulf Menhaden. I reside in Richmond, Virginia. I have the following request for a motion to be addressed at your August 6, 2024 meeting.

_____

Request a motion is made to initiate an Atlantic Menhaden management document pursuant to a moratorium on reduction fishing in the Chesapeake Bay until such time as a comprehensive menhaden abundance study covering **the ecology, fishery impacts, and economic importance of menhaden populations in the waters of the Commonwealth* of Virginia can be concluded, and then acted up by the ASMFC Atlantic Menhaden Board.

*Virginia Institute of Marine Science, Atlantic Menhaden Research Planning cover letter from Mark W. Luckenbach, dated October 1, 2023. https://rga.lis.virginia.gov/Published/2023/RD528/PDF

_____

We should all be able to agree on one thing, there is no scientific data on menhaden abundance or the impact of how that abundance affects the ecosystem of the Chesapeake Bay.

There are two chances for funding the 3 year VIMS study originally proposed by the Virginia Legislature. The $2.7 million study bill was forwarded in the Virginia Legislature during the last session to be taken up again in 2025. That effort is underway. The goal is bi-partisan sponsorship and support.

The second opportunity for funding the bill is a $2.7 million appropriation item introduced into the 2025 Federal NOAA budget by Senator Van Hollen of Maryland.

Both of these efforts will require work to pass. Our hope, and with your urging, is that Cooke Inc., Omega Protein, and Ocean Harvesters will use their highly persuasive lobbying and public relations machine to see this effort through. With their support funding would almost be guaranteed. We assume based on all of their comments that they are not against a Chesapeake study, but we feel that it is crucial they are not allowed to stand on the sidelines in silence either.

The goal of this request is to allow the Chesapeake a chance to recovery for all concerned, give the scientific community the opportunity to learn what is really going on in the ecosystem, and to allow for a healthy and sustainable menhaden bait sector to prosper in the bay.

Thank you for your efforts and time to consider this request.

Sincerely, Dale William Neal
Richmond, Virginia
Senior Editor, www.saveourmenhaden.org

From:	Tom Lilly
To:	Tina Berger
Subject:	[External] material for menhaden board
Date:	Saturday, July 13, 2024 11:35:24 AM
Attachments:	Wats press rel and chary.pdf MRC Testimony.pdf

Tina please send this to Chair Clark, the menhaden board , Bob Beal and James Boyle for the August 6th meeting... Please advise receipt.

To Chair Clark and all.

Thank You for scheduling menhaden ERP's and Ospreys on the same agenda.

Comment on ERPS : Striped bass and ospreys are the two species most sensitive to the menhaden harvest. Ospreys are included ERP menhaden modeling according to this quote from the article "The Path to an Ecosystem Approach for Forage Fish Management... Atl Menhaden"

Coauthored by 30 menhaden scientists including Amy Schueller, Mike Wilberg, Jin Uphoff, Rob Latour, Mike Wilberg and Shanna Madsen

"striped bass were the most sensitive fish...to menhaden harvest. In the full NWACS model, nearshore piscivorous birds (eg osprey) were also sensitive to menhaden F...similar ti striped bass

Therefore under your ERP science if striped bass and ospreys are in poor condition in the bay there is not enough menhaden. I would seem logical that great shortages in menhaden would produce great negative effects on both species in the bay and exactly that has been present for both species for at least 20 years and it has steadily worsened. How else can the pitiful nesting results in 2023 in VA be explained? Year after year declines since the 1980s leading to only 17 of the 167 nests producing just 17 young. This is just 1/3 the amount needed to keep the species from contracting . n.1 CBD 7/05/23 Press Release

Whitehaven, Md... where I live has five historic nests. Three of them have failed outright . One has two healthy chicks, in the fifth nest on channel marker 27. On July 1st we found two chicks as shown in the first photo. Thery where not moving around, could not hold their heads up. This photo was examined by Dr Watts who felt the birds would not survive unless something happened. We began leaving four menhaden in the nest daily. It was all eaten by the next day. Somehow the mother was able to get food into these chicks and they rapidly recovered as you can see in the last two photos taken this morning.

AS you know all to well the striped bass stock in the bay has been declining for many years. The Young of the Year has just gone five years

with the worst ever results. The is only one full time striped bass charter captain at Sommers Cove Crisfield now....15 have quit. Testimony at the MRC last August was that 127 captains had left the business in VA n.2
(n.1) scan CCB William and Mary Press Release
(n.2) MRC Testimony 8/22/23 see Capt Milke Ostrander page 2.

Thanks for your consideration Tom Lilly 443 235 4465

The Center for Conservation Biology
William & Mary
Advancing conservation through science

The Center for Conservation Biology documents unprecedented osprey nest failures within the lower Chesapeake Bay

For release: July 14, 2023

Williamsburg, VA – In 2023, The Center for Conservation Biology has documented the highest rate of osprey nest failure ever recorded within the lower Chesapeake Bay. Only 17 of 167 nests monitored during the season produced any young. The nesting population produced only 21 young resulting in a reproductive rate of 0.13 young per pair. This rate is below that recorded during the height of the DDT era. In order for the population to sustain itself, pairs should produce 1.15 young per pair.

The poor reproductive performance documented during 2023 is a trend that has been observed for the past fifteen years. In Mobjack Bay, productivity peaked during the 1980s and has declined to the present day. Researchers within The Center believe that the ongoing decline in young production is driven by overharvest of Atlantic menhaden. Forage fish such as menhaden, anchovy, sardine, capelin and herring play significant roles in marine ecosystems throughout the world. These small schooling fish are responsible for transferring energy from plankton to higher-level predators such as osprey. When forage fish are overharvested the marine food web is broken and higher-level predators suffer.

Within Moback Bay young osprey are starving in nests because the decades-long overharvest of menhaden has caused local depletion. Within osprey pairs, males are responsible for hunting and providing fish to broods. Between 1985 and 2021, the rate of menhaden captures by male osprey declined from 2.4 fish per 10 hours to only 0.4 fish per 10 hours, a decline of more than 80 percent. Although osprey do feed on other fish species within the lower Chesapeake Bay none of these species offer comparable nutrient content. Atlantic menhaden is the keystone species that osprey depend on during the nesting season.

An experimental study conducted by Center biologists during the 2021 nesting season supplemented diets of osprey broods by providing menhaden and demonstrated that reproductive rates could be driven back to sustainable levels. On a broad scale, recovery of reproductive rates will require the restoration of menhaden stocks. Menhaden harvest policy has become a political mine field with special interests on all sides. Osprey within the lower Bay are increasingly demonstrating that our choices about harvest policy are having consequences for the broader Chesapeake Bay ecosystem.

Contact:

Dr. Bryan D. Watts, Director
The Center for Conservation Biology
William & Mary
bdwatt@wm.edu
(757) 221-2247

Study Area	Nests (N)	Successful (N)	Young (N)	Success Rate (% of nests)	Reproductive Rate (Young/Pr)
Polyhaline					
Lower York	44	3	5	6.8	0.11
Ware River	29	2	2	6.9	0.07
North River	33	1	1	3.0	0.03
East River	21	0	0	0.0	0.00
Lynnhaven River					
Total	**127**	**6**	**8**	**4.7**	**0.03**
Tidal Fresh					
Upper James	54	45	77	83.3	1.43
Upper Rapp	37	28	56	75.7	1.51
Total	**91**	**73**	**133**	**80.2**	**1.46**

From Tom Lilly <foragematters@aol.com>

To CC / BCC

Fw: VMRC meeting summary your testimony!

Summary of testimony:

Christy Medice (9.49-11:39) Suggests that a 2.5 mile buffer from shore needed in bay due to depth of nets...said factory is staying a mile off Silver Beach and beaches have been clean.

Debbie Campbell (11:55-14.22) spoke as mother and grandmother with grandson Eric with her of the precious time together and importance of the lessons learned fishing by children but the kids lose interest as the fishing is so poor. Says the bay is dying- that the board has been "asked and asked" (to change this)

Dr Bryan Watts (37.59-44.5) Professor of Biology at William and Mary and founder of the Center for Conservation Biology involved in studying osprey status for decades. Spoke to importance of menhaden forage to not only ospreys but for other species such as eagles, gannets etc. Spoke to fact that 1,000s of osprey babies died of starvation in VA this season. That menhaden levels in the bay need to return to what was here in the 1980s to adequately support ospreys in the lower VA bay. Said the problem was widespread extending up into Maryland.

Julie Kacmarcik (21.36-24.35) ....Conservation chair of Richmond Audubon Society. ...Advises Audubon has issued a national alert to its two million members in 610 Chapters of the osprey problems in VA, about the collateral damage caused by overharvesting . ...asked for a 50% reduction in bay harvests....spoke of of menhaden as a resource owned by the public...said "cast votes not nets"

Terry Cuthriell (24.5-28.10) Past president of Virginia Society of Ornithology, William and Mary graduate, spoke to her lifetime of observing ospreys and eagles in the lower James River. Ospreys starving in first week of life, spoke to osprey's value as a filter feeder cleaning water and keeping dead zones in check. Urged restoring bay osprey to the levels in the 1980s when the bay was healthy. Spoke to New Jersey now calling itself the striped bass fishing mecca because of the abundance of menhaden since NJ banned reduction fishing in state waters. (Editor's comment See eg article Saltwater Sportsmen scan, also see similar results in NY - scan)

Andy Cortez (28.27-30.2) Furnished the Commision with an ethics document from VA Wildlife Resources Board

Captain Mike Ostrander.(30.30-32.36) Describes a 23 year history of charter fishing on the upper James River and his transition to wildlife and birdwatching tours featuring the ospreys that are thriving there where they rely on shad and catfish not menhaden. Spoke to the decades of efforts by Virginia Anglers Club members at the MRC to reduce menhaden harvests. Spoke of his survey showing 149 of his fellow charter captains had gone out of business in the lower Chesapeake Bay due to poor fishing.. Asked for relief.

Lynn Evans Johnson.(32.58-34.41) Audubon Board member. Spoke of the devastation of our natural resources,.asked the Board to consider the choices, to act as a team going forward.

Lynn Jenkins...Referred to the details/factorr which had already been provided by previous presenters. Reassured the Commissioners that we are not naive as to the complexity of the issue, but wanted another "factor" to be considered-that members of the Commission need to listen to us not just with their "heads"...but with their hearts.

Jacque Montfrans..... Spoke of ospreys as "canary in coal mine" as to menhaden over harvesting ...that improvements in menhaden

would benefit all bay species,, that Commissioners were to be stewards of VA marine resources. (editor's note the ASMFC refers to striped bass as the canary in the coal mine under their ERP definitions. 30 menhaden scientists say the same thing about the ERP status of ospreys. See page 12 Journal Article in Frontiers in Marine Science (scan) Both ospreys and striped bass are indicator species for menhaden overharvesting and both species are in chronic reproductive failure in Chesapeake bay right now.That should be enough in itself (even without the other ecologic, social and economic consequences to millions of people) for the managers to take prompt decisive remedial action but they continue to ignore reality and their own science.

Tomoko Hamada (39:03-39.54)
Wildlife artist Spoke of her anguish about ospreys "watch all the time...can't catch fish ....there are no fish now...." and then "watch babies dying in front of my eyes, heart breaking"

the link to the testimony
is https://youtu.be/hf58Z9SLNlg Or Google YouTube Virginia Marine Resources Commission meeting August 22,2023

Send GIF abc ... Save Delete

Localized Depletion of Atlantic Menhaden in the Chesapeake Bay and Its Impact on Maryland and Virginia Fisheries

July 4, 2024

Phil Zalesak
Save Our Menhaden Coalition
https://www.saveourmenhaden.org/take-action.html

Executive Summary

Although the statement that "Atlantic menhaden are not over fished and overfishing is not occurring" may apply to the Atlantic Coast, it does not apply to the Chesapeake Bay.

The latest scientific data indicates that there are insufficient Atlantic menhaden in Virginia waters during the Atlantic menhaden reduction fishing season to sustain life for fish and birds dependent on Atlantic menhaden for their survival.

This lack of menhaden is caused by the removal of 3/4 of a billion fish from the Chesapeake Bay and its entrance by the Atlantic menhaden reduction fishing industry. **See slide 8.**

The solution to this problem is to end the Atlantic menhaden reduction fishing in Virginia waters and limit reduction fishing to federal waters east of the 3 nautical mile Exclusive Economic Zone.

Background

- **There are many environment stresses on the Chesapeake Bay (e.g., pollution), however, very few are supported by science and empirical data to take decisive action.**
- **Localized depletion of Atlantic menhaden is occurring in the Chesapeake Bay. The root cause is the depletion of Atlantic menhaden in Virginia waters. As the mortality rate of Atlantic menhaden rises, so does the consequential survival rates of marine life that depend of Atlantic menhaden for subsistence (a) and (b). This assertion finds validation in scientific research and empirical evidence.**
- **The Total Allowable Catch (TAC) for the entire Atlantic Coast for 2024 -2025 is 233,550 metric tons (c).**
- **Virginia is allocated over 75% of the TAC for a total of 175,630 metric tons (c).**
- **Virginia allocates over 90% of its quota to their reduction fishery for a total of 158,137 metric tons (d). That is over 2/3 of the coast-wide TAC.**
- **At .46 pounds per fish (NOAA), this amounts to 3 / 4 of a billion fish being removed from the Chesapeake Bay and just outside the Bay.**
- **There is no science to support this allocation.**

References

(a) https://asmfc.org/uploads/file/63d8390fAtlMenhadenERPAssmt_PeerReviewReports.pdf, pages iii & 375

(b) https://www.frontiersin.org/articles/10.3389/fmars.2023.1172787/full

(c) https://asmfc.org/uploads/file/636e6629pr32AtlMenhaden2023TAC_AddendumIApproval.pdf

(d) https://www.mrc.virginia.gov/Regulations/fr1270.shtm

Background (Continued)

Impact to Recreational Fisheries

- **Striped Bass are dependent on Atlantic menhaden for their survival. The higher the mortality rate for Atlantic menhaden, the higher the mortality rate of Striped Bass will be. The lack of Atlantic menhaden has been particularly destructive to Striped Bass, Bluefish, and Weakfish in the Chesapeake Bay. See slides 9 to 11.**
- **This lack of forage fish available to Striped Bass in the Chesapeake Bay is reflected in Maryland's Juvenile Striped Bass Index which has been poor or the last 5 years. See slide 12.**

Impact to Osprey

- **Osprey are particularly dependent on Atlantic menhaden for their survival in the main stem of the Chesapeake Bay. See slides 14 to 18.**
- **Their reproductively rate is well below DDT era levels of the 1970s and well below survivability in the main stem of Chesapeake Bay.**

Background (Continued)

Economic Impact to the Striped Bass Industry

- **In 2016, the Atlantic Coast GDP associated with just the recreational Striped Bass industry was $7.7 billion dollars. The employment associated with this industry was over 104,000 jobs. See slide 19.**

- **In Maryland and Virginia, the GDP totaled over $909 million dollars and over 11,600 jobs. See slides 20 to 22.**

- **Maryland Striped Bass recreational harvest in 2016 was 10,919,265 pounds. The harvest in 2022 was 3,083,037 pounds for a 72% decline. See slide 23.**

- **Virginia Striped Bass recreational harvest in 2016 was 1,024,390 pounds. The harvest in 2022 was 282,789 pounds for a 72% decline also. See slide 24.**

- **This is an economic disaster for both the Maryland and Virginia recreational fishing industries. This data is supported by the experience and sworn testimony of both Maryland and Virginia charter captains and every day recreational fishermen.**

- **This also impacts the economy of the entire Atlantic Coast as over 60% of the Atlantic Coast stock of Striped Bass begin as spawn in the Chesapeake Bay and its tributaries. See slide 23.**

Economic Impact of Ending Reduction Fishing

New York and New Jersey Benefited Ecologically and Economically from Ending Atlantic Menhaden Reduction Fishing in their State Waters.

See slides 26 and 27.

The Solution

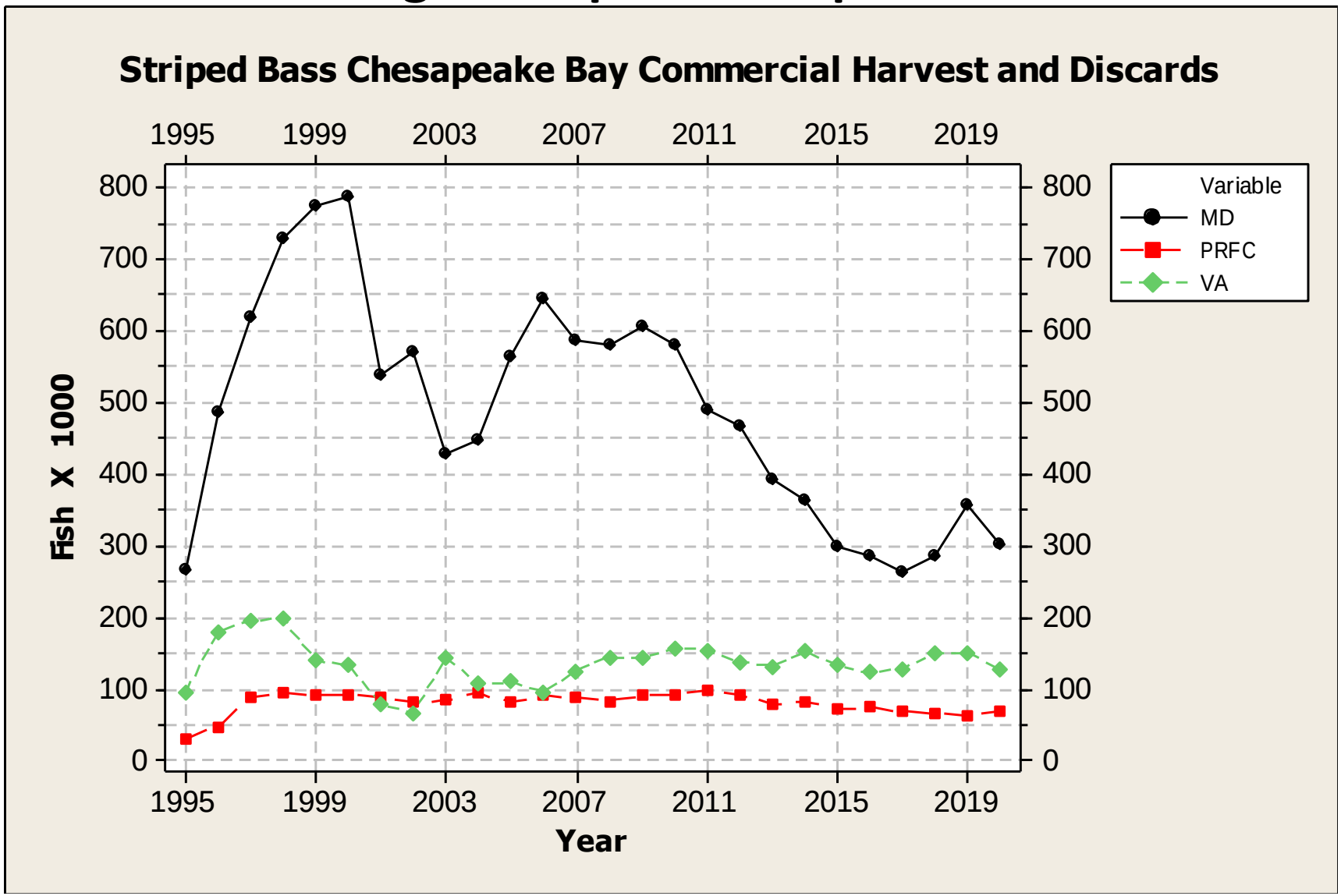
End Atlantic menhaden reduction harvesting in Virginia waters and limit industrial reduction harvesting to federal waters 3 nautical miles off the Atlantic Coastline like all of the other Atlantic States

Atlantic Menhaden Purse Seine Settings

Figure 4.1.3.4.3. Locations of all purse-seine sets by Omega Protein vessels (red) and last sets of trips that were sampled for age and size composition of the catch (= port samples; green) during 2013; data are from CDFR data base.

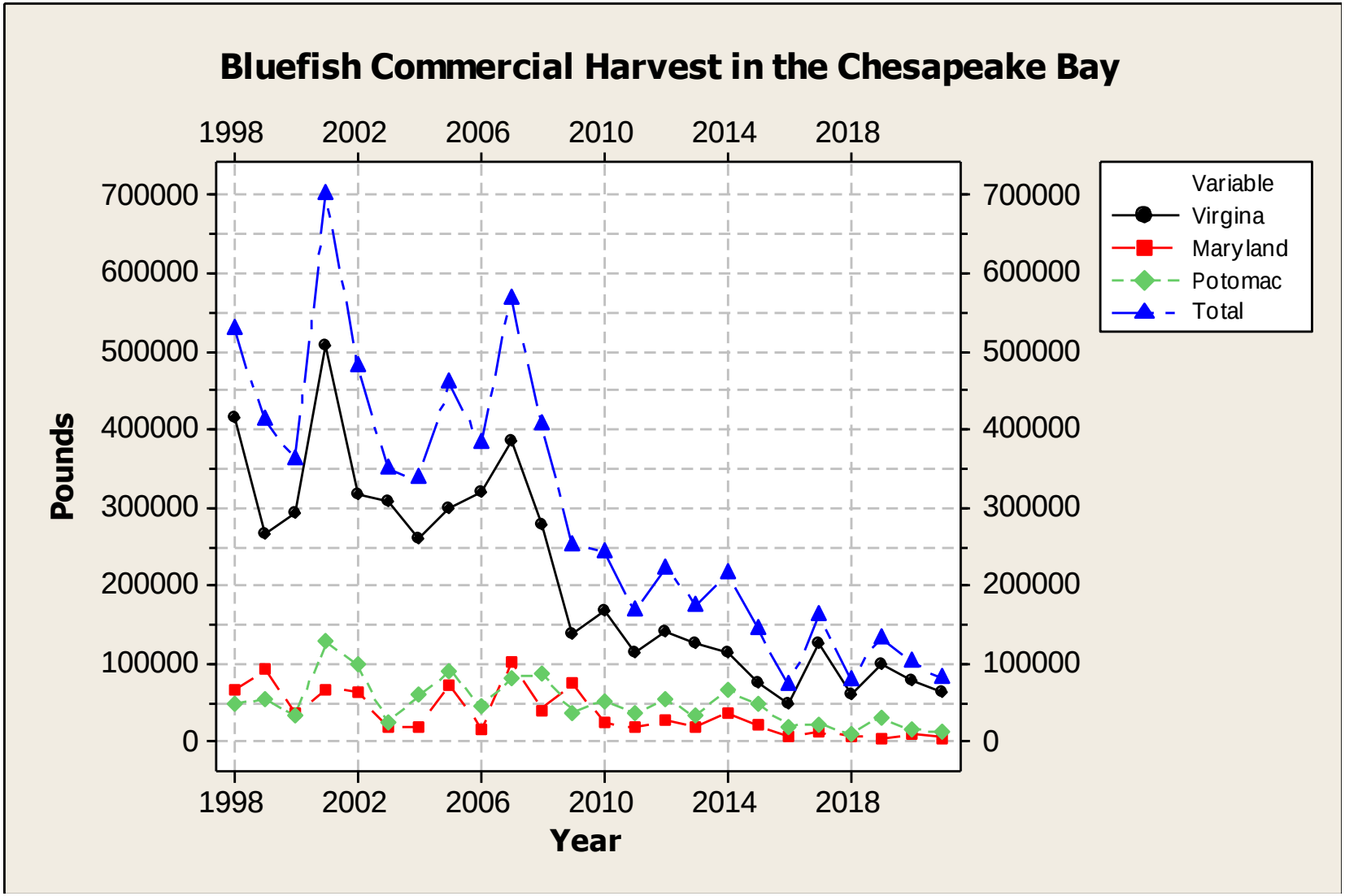
Ref: SEDAR 40 Stock Assessment Report Atlantic Menhaden, January 2015, page 10

Ecological Impact – Striped Bass



Ref: ASMFC Draft Amendment 7 IFMP for Atlantic Striped Bass, dated 2/2022, page 132, Table 15

Ecological Impact - Bluefish



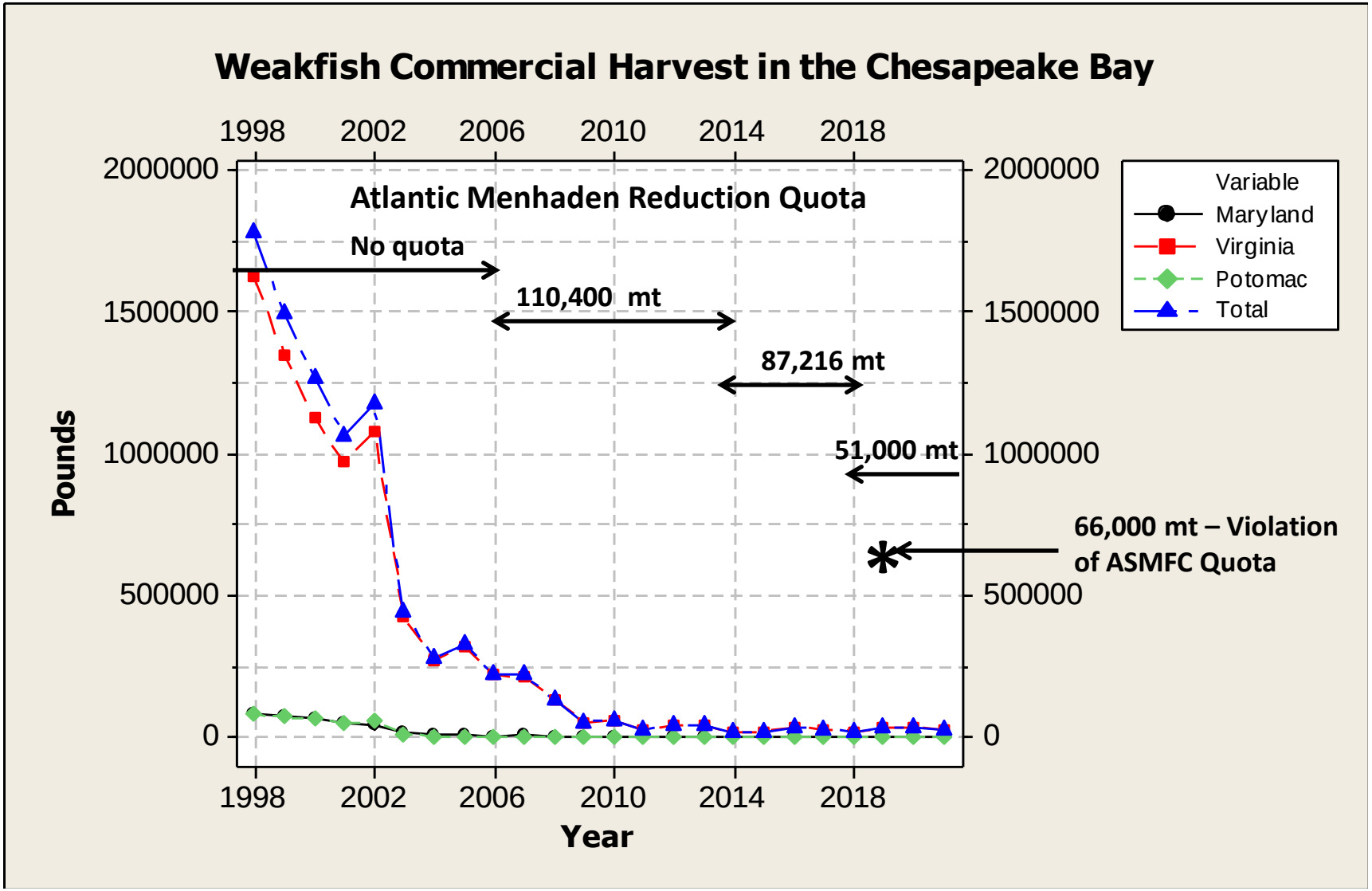
References

(a) MD DNR, Connie Lewis email of 1/9/23

(b) VMRC, Stephanie Iverson email of 1/10/23

(c) PRFC Commercial Fish Fish Landings for 2022

Ecological Impact - Weakfish



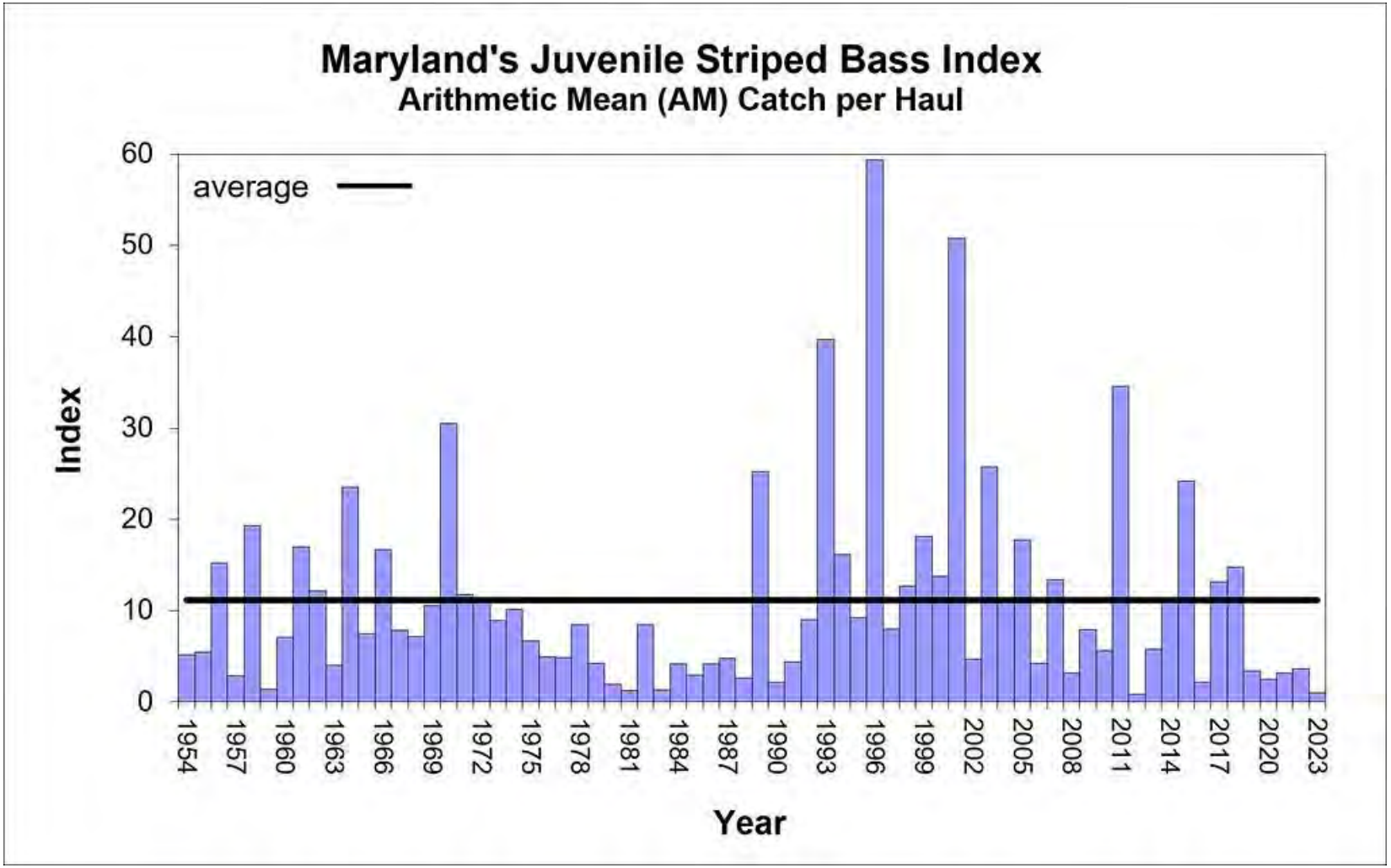
References

(a) MD DNR, Connie Lewis email of 1/9/23

(b) VMRC, Stephanie Iverson email of 1/10/23

(c) PRFC Commercial Fish Fish Landings for 2022

Ecological Impact – Striped Bass



[Chesapeake Bay 2023 Young-of-Year Striped Bass Survey Results Announced (maryland.gov)]

Dr. Noah Bressman Assessment
Salisbury University

“Virginia based menhaden fishery is overfishing the stock in and around the Chesapeake Bay, which is preventing the important forage fish from making its way into the Bay and its tributaries.”

Dr. Noah Bressman’s email to Secretary Jeanie Riccio, Maryland Department of Natural Resources, 10/21/21

Dr. Bryan Watts
College of William and Mary

According to Dr. Bryan Watts of the College of William and Mary reductions in menhaden stocks have caused osprey reproductive productivity to decline to below DDT-era rates. This is based on 50 years of research. Dr. Watts provided sworn testimony before the Virginia Marine Resources Commission on 8/22/23. He stated the following:

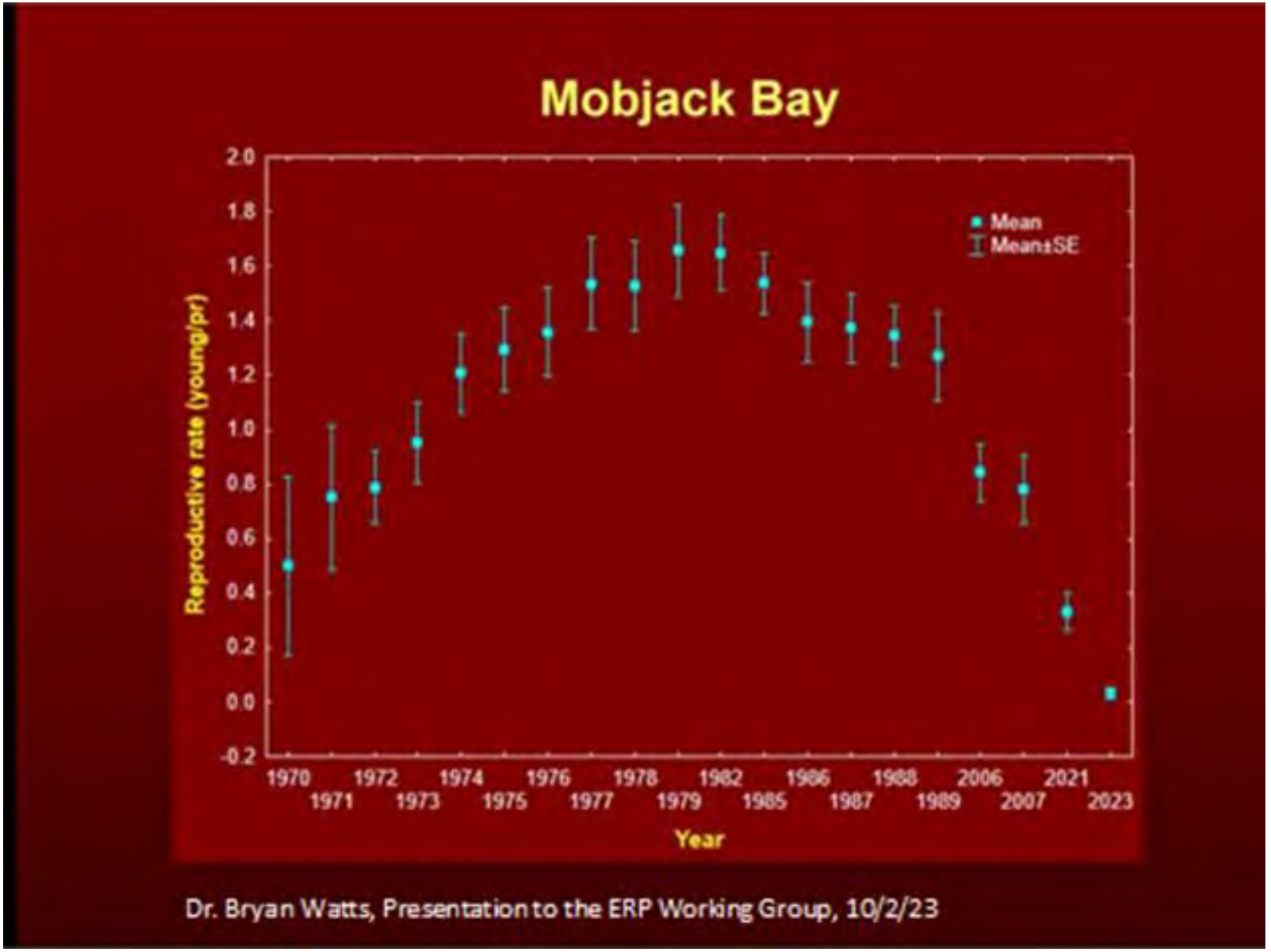
"The reason we decided to finally to begin to make statements about this issue is that we had moved from several 100 chicks starving in the nests to now 1,000s of chicks starving in the nests in the lower Bay."

He went on to state "If you look at the relationship between reproductive rates over the last 40 years and the Atlantic menhaden relative abundance index, they are directly related."

See reference (n) and the link below.

https://www.youtube.com/watch?v=hf58Z9SLNlg (14:43)

Ecological Impact - Ospreys



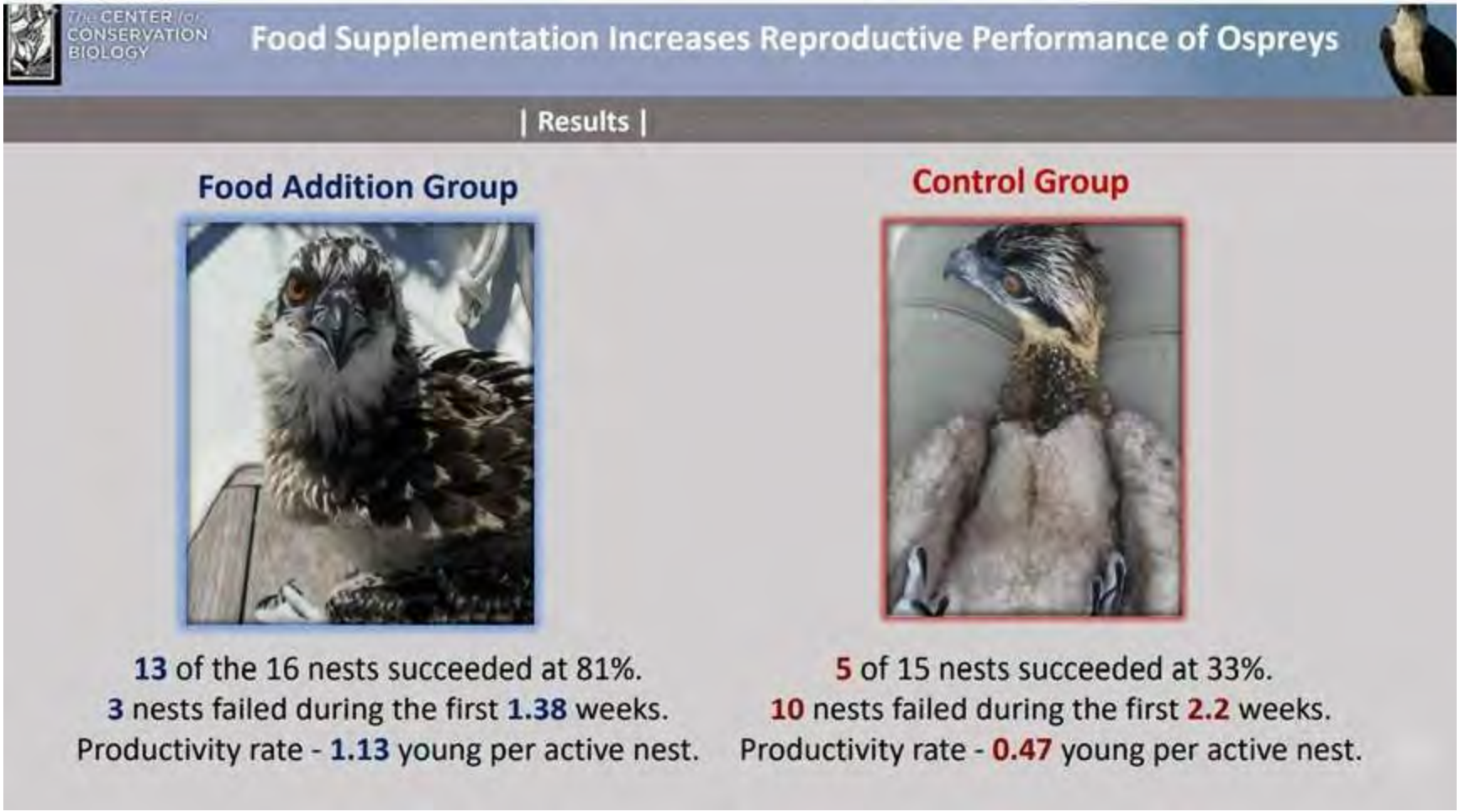
Reference: Watts, et al. 2024) Watts BD, Stinson CH, McLean BK, Glass KA, Academia, MH, Demographic Response of Osprey

Dr. Bryan Watts
College of William and Mary

Osprey Reproductive Rate	Chicks/Active Nest
Requirement	1.15
1970	0.50
1980	2.00
2006	0.75
2021	0.30
2023	0.10

See reference
https://www.youtube.com/watch?v=hf58Z9SLNlg (14:43).

Osprey Reproductive Performance Data



Food Supplementation Increases Reproductive Performance of Ospreys in the Lower Chesapeake Bay, Michael Academia of the College of William & Mary, October 6, 2022

Impact to Osprey in the Chesapeake Bay

Food supplementation Increases Reproductive Performance of Ospreys in the Lower Chesapeake Bay, Frontiers and Marine Science - 4/23/23

"Reproductive rates within the control group were low and unsustainable suggesting that current menhaden availability is too low to support a demographically stable osprey population. Menhaden populations should be maintained at levels that will sustain a stable osprey population in which they are able to produce 1.15 young/active nest to offset mortality."

Michael Academia and Dr. Bryan Watts

Reference: Academia MH and Watts BD (2023), Food Supplement Increases

Atlantic Coast Economic Impact of Striped Bass (2016)

Commercial GDP: **$103,200,000**
Commercial Jobs **2,664**

Recreational GDP: **$7,731,600,000**
Recreational Jobs **104,867**

Comparisons Between the Fisheries

Table R-7. 2016 Comparison of commercial and recreational impacts: North Carolina to Maine

	Commercial Fishery	Recreational Fishery	Total	Commercial Fishery	Recreational Fishery	Total
Pounds landed (000s)	4,978.3	43,731.9	48,710.2	10%	90%	100%
Jobs supported	2,664	104,867	107,531	2%	98%	100%
Income ($millions)	$72.7	4,726.0	$4,726.1	< 1%	>99%	100%
GDP ($millions)	$103.2	7,731.6	$7,731.7	< 1%	>99%	100%

The Economic Contributions of Recreational and Commercial Striped Bass Fishing, Southwick Associates, 4/12/19, page 16

See reference (q)

Striped Bass Economic Impact to Maryland (2016)

Commercial GDP: **$17,109,700**
Commercial Jobs **584**

Recreational GPD: **$802,791,200**
Recreational Jobs **10,193**

Comparisons Between the Fisheries

Table MD-8. Comparison of commercial and recreational impacts: Maryland 2016

	Commercial Fishery	Recreational Fishery	Total	Commercial Fishery	Recreational Fishery	Total
Pounds landed (000s)	1,709.4	10,919.1	12628.5	14%	86%	100%
Jobs supported	584	10,193	10,777	5%	95%	100%
Income ($000s)	$12,569.6	$496,859.8	$509,429.7	2%	98%	100%
GDP ($000s)	$17,109.7	$802,791.2	$819,900.9	2%	98%	100%

Ref: The Economic Contributions of Recreational and Commercial Striped Bass Fishing, Southwick Associates, 4/12/19, page 26

See reference (q)

Striped Bass Economic Impact to Virginia (2016)

Commercial GDP: **$12,198,100**
Commercial Jobs **384**

Recreational GPD: **$106,623,300**
Recreational Jobs **1,444**

Comparisons Between the Fisheries

Table VA-7. Comparison of commercial and recreational impacts: Virginia

	Commercial Fishery	Recreational Fishery	Total	Commercial Fishery	Recreational Fishery	Total
Pounds landed (000s)	1,333.6	1,024.4	2358.0	57%	43%	100%
Jobs supported	384	1,444	1828	21%	79%	100%
Income ($000s)	$9,016.0	$67,550.7	$76,566.7	12%	88%	100%
GDP ($000s)	$12,198.1	$106,623.3	$118,821.4	10%	90%	100%

Ref: The Economic Contributions of Recreational and Commercial Striped Bass Fishing, Southwick Associates, 4/12/19

See reference (q), page 45

Economic Impact

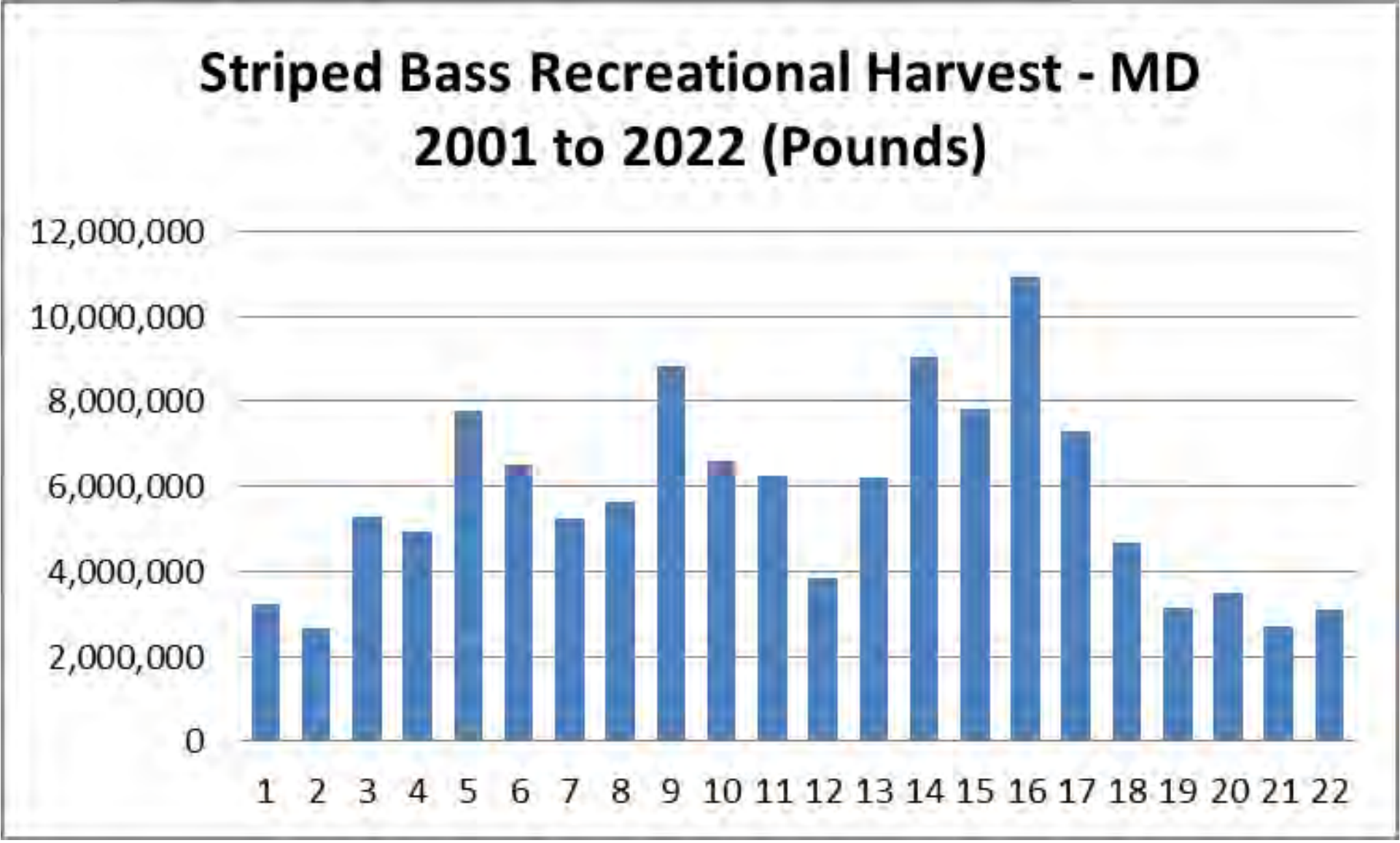
Striped Bass Related GDP for Maryland and Virginia Economies (2016)

	Recreational GDP	Recreational Jobs	Commercial GDP	Commercial Jobs
Maryland	$802,791,200	10,193	$17,109,200	584
Virginia	$106,623,300	1,444	$12,198,100	384
Total	$909,414,500	11,637	$29,307,300	968

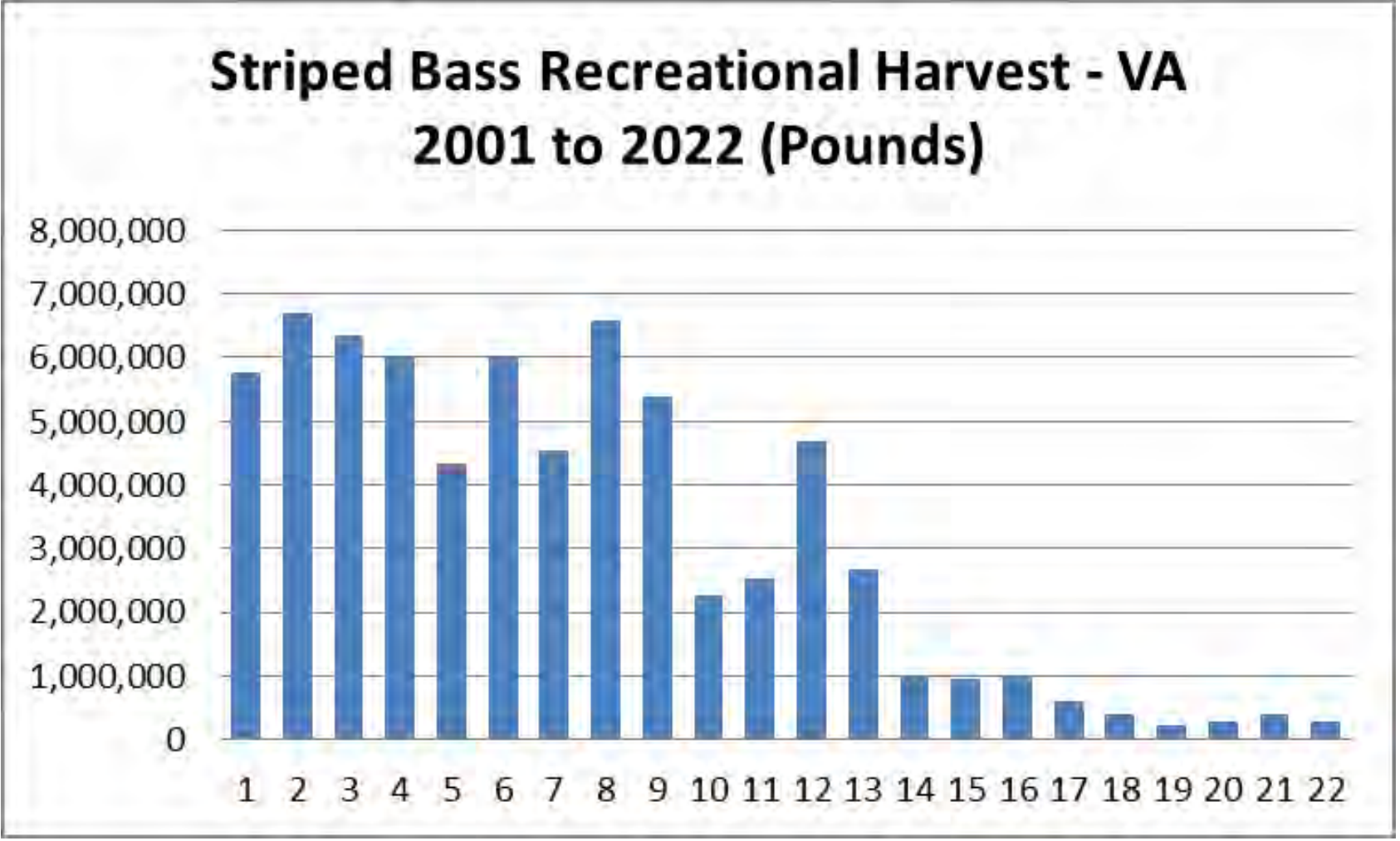
Reference:

https://mcgraw.org/wp-content/uploads/2022/01/McGraw-Striped-Bass-Report-FINAL_compressed.pdf

See reference (q)



[Fisheries One Stop Shop (FOSS) | NOAA Fisheries | Landings]



https://www.fisheries.noaa.gov/foss/f?p=215:200::::::

Ecological Impact

Striped Bass

Chesapeake Bay Contribution to Coastal Stock (>60%)

Striped Bass

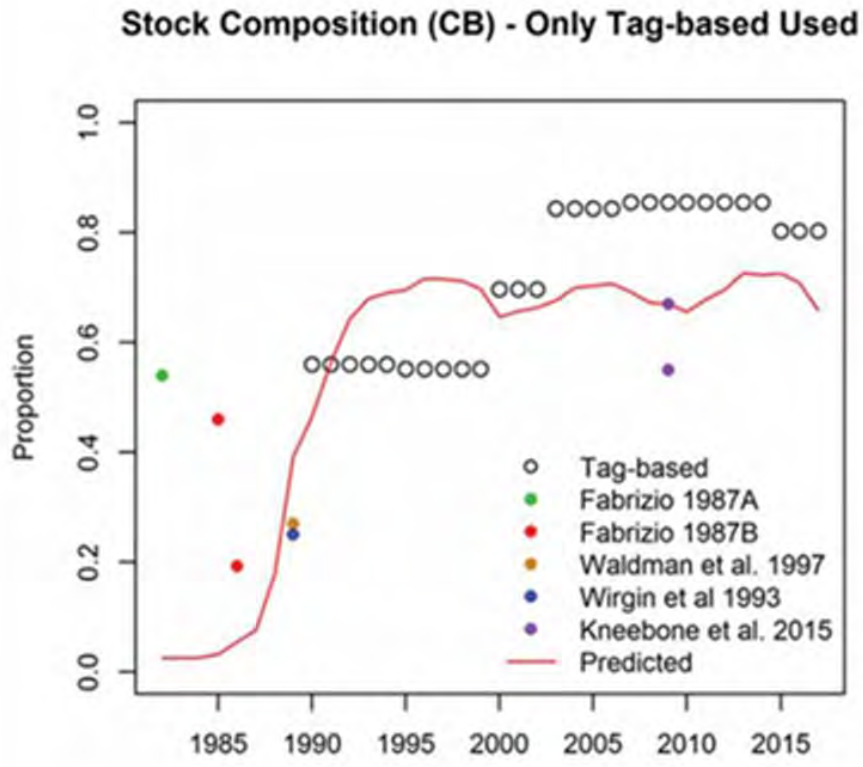


Figure B7.9. Observed versus predicted stock composition for the Chesapeake Bay stock. Literature values not used in the model fitting are indicted by the solid circles for comparison.

See reference (s)

https://repository.library.noaa.gov/view/noaa/23031

New York Experience – 3/8/21

FWD: Menhaden
From: George Scocca george@nyangler.com
To: Tom foragematters@aol.com
Date: Mon, March 8, 2021 7:15am

Hello Tom:

I am the person that spearheaded the bill that has kept reduction fishing out of NY waters. The changes here have been unbelievable. I can talk about it all day. My single greatest accomplishment in 35 years of fisheries management.

The availability of bunker throughout our season has seen an increase in both charter and party boats carrying anglers to get in on our great striped bass fishery. Bass stick with their food source and this has kept a healthy population of stripers in our waters. It's sparked a number of for hire boats to carry more anglers than ever before.

It has also had a profound effect on our bird population. We now have about 12 dozen nest pair eagles on long island and the osprey population is thriving. All due to the amount of forage for them to eat.

And lets not forget the importance of their filtering our waters.
Thank you.
George R. Scocca
nyangler.com

Check out my Linkedin profile

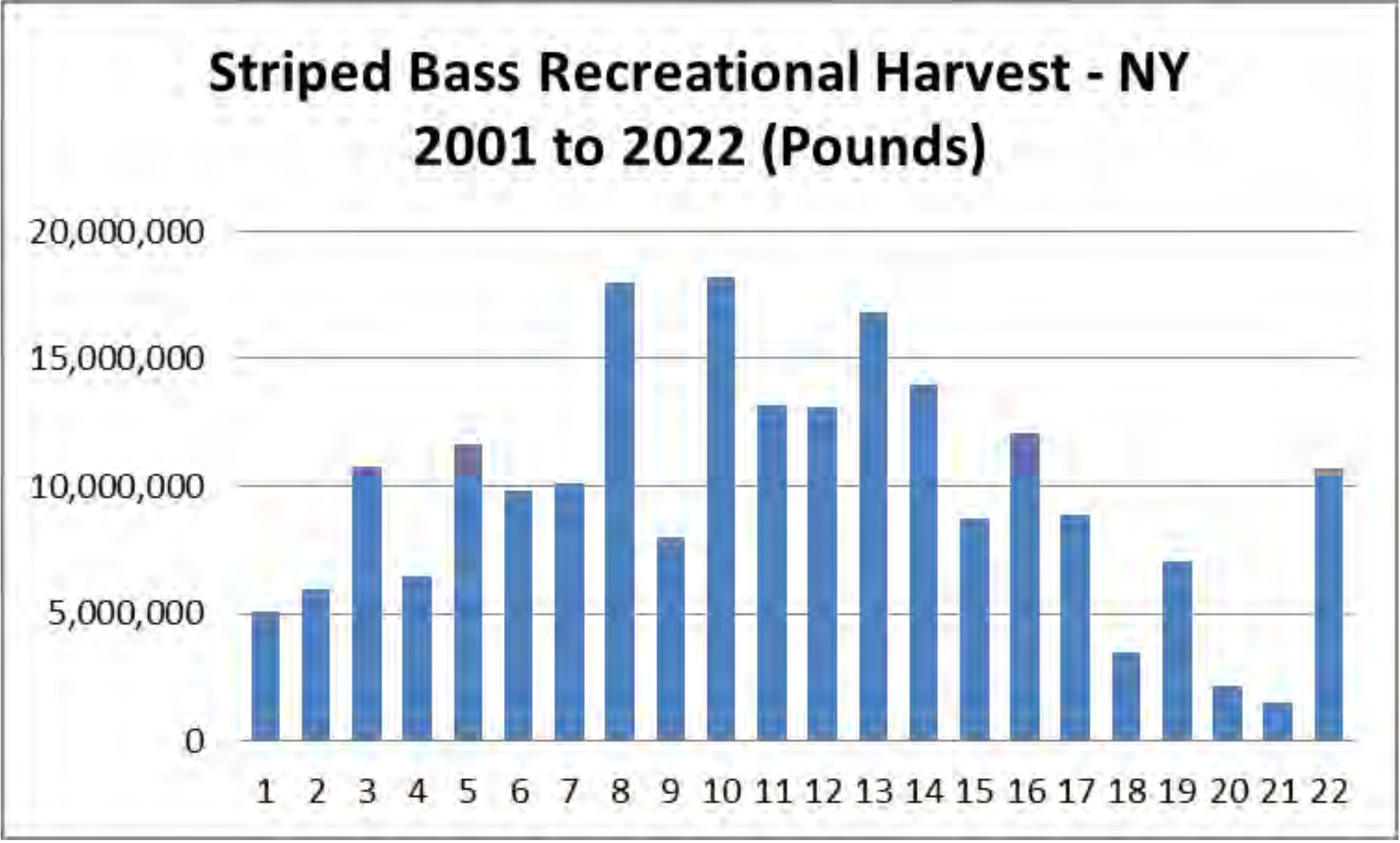
"I am the person that spearheaded the bill that has kept reduction fishing out of NY waters . . .

The availability of bunker throughout our has seen an increase in charter and party boats carrying anglers to get in on our great striped bass fishery.

Bass stick with their food source and this has kept a healthy population of stripers in our waters. It's sparked a number of for hire boats to carry more anglers than ever before.

It has had a profound effect on our bird population. We now have about a dozen nest par eagles on long island and the osprey population is thriving."

George Scocca
Editor, nyangler.com



https://www.fisheries.noaa.gov/foss/f?p=215:200::::::

New Jersey Experience

Salt Water Sportsmen – 4/27/23

"Jersey politicians did one thing right: Getting the Omega 3 bunker boats out of state waters.

That has allowed a vast biomass of menhaden to proliferate throughout the year in Jersey waters. This draws behemoth bass into the bays, river systems and alongshore to fatten up on omnipresent adult bunker."

https://www.saltwatersportsman.com/howto/is-new-jersey-the-new-striped-bass-mecca/

References

(a) Report on the evaluation of the Chesapeake Bay Fisheries Science Program: Atlantic Menhaden Research Program Laurel, MD, April 22-24, 2009. 2009_05_08 Maguire Chesapeake Bay menhaden program review report.pdf (noaa.gov)

(b) Atlantic Menhaden Board Sets 2023 TAC at 233,550 MT & Approves Addendum I to Address Commercial Allocations, Episodic Event Set Asides, and Incidental Catch/Small-scale Fisheries 636e6629pr32AtlMenhaden2023TAC_AddendumIApproval.pdf (asmfc.org)

(c) Report on the evaluation of the Chesapeake Bay Fisheries Science Program: Atlantic Menhaden Research Program Laurel, MD, April 22-24, 2009 sedarweb.org/documents/sedar-40-stock-assessment-report-atlantic-menhaden/

(d) VIRGINIA MARINE RESOURCES COMMISSION "PERTAINING TO ATLANTIC MENHADEN" CHAPTER 4 VAC 20-1270-10 ET SEQ. REGULATION: PERTAINING TO ATLANTIC MENHADEN (virginia.gov)

(e) Atlantic States Marine Fisheries Commission 2019 Atlantic Menhaden Ecological Reference Point Stock Assessment Report 6436c5022019AtlMenhadenERPStockAssessmentReport.pdf (asmfc.org)

(f) Estimation of movement and mortality of Atlantic menhaden during 1966–1969 using a Bayesian multi-state mark-recovery model, February 2019 Estimation of movement and mortality of Atlantic menhaden during 1966–1969 using a Bayesian multi-state mark-recovery model - ScienceDirect

(g) ASMFC Draft Amendment 7 Striped Bass FMP, table 18, page 135, 2/4/2022

(h) ASMFC Draft Amendment 7 Striped Bass FMP, table 15, page 132, 2/4/2022

(i) Maryland Department of Natural Resource, Connie Lewis email of 1/9/23

(j) Virginia Marine Resources Commission, Stephanie Iverson email of 1/10/23

(k) Potomac River Fisheries Commission Potomac River Commercial Finfish Landings for 2022 http://prfc.us/pdfs/2023/Finfish-Harvest-Report.pdf

(l) Chesapeake Bay 2023 Young-of-Year Striped Bass Survey Results Announced Chesapeake Bay 2023 Young-of-Year Striped Bass Survey Results Announced (maryland.gov)

(m) Dr. Noah Bressman email to Secretary Jeannie Riccio, Maryland Department of Natural Resources, 10/21/2021

(n) (Watts, et al. 2024) Watts BD, Stinson CH, McLean BK, Glass KA, Academia MH, Byrd MA

(o) Watts BD, Stinson CH, McLean BK, Glass KA, Academia MH, Byrd MA, Demographic response of Osprey

(p) Academia MH and Watts BD (2023), Food Supplemental Increases

(q) The Economic Contributions of Recreational and Commercial Striped Bass Fishing, April 12, 2019 McGraw-Striped-Bass-Report-FINAL_compressed.pdf

(r) NOAA Fisheries Landing Data Fisheries One Stop Shop (FOSS) | NOAA Fisheries | Landings

(s) 66th Northeast Regional Stock Assessment Workshop (66th SAW) Assessment Report, 2019 66th Northeast Regional Stock Assessment Workshop (66th SAW) Assessment Report (noaa.gov) page 806

(t) VMRC FISHERIES MANAGEMENT DIVISION EVALUATION, 12/6/2022 https://mrc.virginia.gov/Notices/2022/2022-12-Menhaden-Buffers.pdf

(u) Omega Protein adds vessel to clean up net spills by: Charlie Paullin, July 7, 2023 https://virginiamercury.com/2023/07/07/omega-protein-adds-vessel-to-clean-up-net-spills/

Atlantic States Marine Fisheries Commission

Spiny Dogfish Management Board

August 6, 2024
11:15 a.m. – 12:15 p.m.

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 (*P. Geer*)	11:15 a.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from May 2024	11:15 a.m.
3.	Public Comment	11:20 a.m.
4.	Review Report on State Impacts of New England and Mid-Atlantic Fishery Management Councils' Actions to Reduce Sturgeon Bycatch *(J. Boyle)* • Consider Complementary Action in State Waters **Possible Action**	11:30 a.m.
5.	Other Business/Adjourn	12:15 p.m.

The meeting will be held at The Westin Crystal City (1800 Richmond Highway, Arlington, VA; 703.486.1111) and via webinar; click here for details

MEETING OVERVIEW

Spiny Dogfish Management Board
August 6, 2024
11:15 a.m. – 12:15 p.m.

Chair: Pat Geer (VA) Assumed Chairmanship: 1/24	Technical Committee Chair: Scott Newlin (DE)	Law Enforcement Committee Rep: Chris Baker (MA)
Vice Chair: Joe Cimino (NJ)	Advisory Panel Chair: Vacant	Previous Board Meeting: May 2, 2024
Voting Members: ME, NH, MA, RI, CT, NY, NJ, DE, MD, VA, NC, NMFS (12 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from May 2024

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. Review Report on State Impacts of New England and Mid-Atlantic Fishery Management Councils' Actions to Reduce Sturgeon Bycatch (11:30 a.m.-12:15 p.m.) Possible Action

Background

- In April 2024, the MAFMC and NEFMC each met to select their preferred alternatives to reduce sturgeon bycatch in the spiny dogfish fishery **(Briefing Materials).**
- After reviewing the preferred alternative, the Board requested more information on the impacts of complementary action on state fisheries with differing permitting structures **(Briefing Materials)**.

Presentations

- Review of State Impacts of Council Actions to Reduce Sturgeon Bycatch by J. Boyle

5. Other Business/Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

SPINY DOGFISH MANAGEMENT BOARD

The Westin Crystal City
Arlington, Virginia
Hybrid Meeting

May 2, 2024

TABLE OF CONTENTS

INDEX OF MOTIONS

ATTENDANCE

Board Members

Megan Ware, ME, proxy for P. Keliher (AA)
Renee Zobel, NH, proxy for C. Patterson (AA)
Doug Grout, NH (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
Nicola Meserve, MA, proxy for D. McKiernan (AA)
Raymond Kane, MA (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)
Jason McNamee, RI (AA)
Justin Davis, CT (AA)
William Hyatt, CT (GA)
Jesse Hornstein, NY, proxy for M. Gary (AA)
Emerson Hasbrouck, NY (GA)
Joe Cimino, NJ (AA)
Jeff Kaelin, NJ (GA)
Adam Nowalsky, NJ, proxy for Sen. Gopal (LA)
John Clark, DE (AA)
Roy Miller, DE (GA)
Craig Pugh, DE, proxy for Rep. Carson (LA)
Michael Luisi, MD, proxy for L. Fegley (AA)
Pat Geer, VA, proxy for J. Green (AA)
Chris Batsavage, NC, proxy for K. Rawls (AA)
Allison Murphy, NOAA

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

Ex-Officio Members

Chris Baker, Law Enforcement Committee Rep.

Staff

Bob Beal
Toni Kerns
Tina Berger
Madeline Musante
Tracy Bauer
James Boyle
Caitlin Starks
Chelsea Tuohy
Emilie Franke
Jainita Patel
Katie Drew
Jeff Kipp
Kristen Anstead
Trevor Scheffel

Guests

Auva Amirmokri, Shark Advocates International
Russ Babb, NJ DEP
Alan Bianchi, NC DMF
Tom Bleifuss, USGS
Jason Boucher, NOAA
Colleen Bouffard, CT DEEP
Jennifer Couture, NEFMC
Jessica Daher, NJ DEP
Laura Deighan, NOAA
Jason Didden, MAFMC
Chris Dollar, CCA National
Julie Evans, East Hampton Town Fisheries Advisory Cmte.
James Fletcher, United National Fisherman's Assn.
Sonja Fordhaun, Skark Advocates International
Anthony Friedrich, ASGA
Sarah Gaichas, NOAA
Alexa Galvan, VMRC
Keilin Gamboa-Salazar, SC DNR
Marty Gary, NY (AA)
Matthew Gates
Jennifer Goebel, NOAA
Melanie Griffin, MA DMF
Hannah Hart, MAFMC
Heidi Henninger, NOAA
Jay Hermsen, NOAA
Todd Janeski, VCU
Robert LaCava, MD DNR
Lynn Lankshear, NOAA
Laura Lee, US FWS
Tom Lilly, Menhaden Project
John Maniscalco, NYS DEC
Anthony Mastitski, Marine Stewardship Council
Tara McClintock, Cornell University Cooperative Extension
Joshua McGilly, VMRC
Daniel McKiernan, MA (AA)
Kevin McMenamin, Annapolis Anglers Club
Meredith Mendelson, ME DMR
Alex Mercado, Cornell Cooperative Extension of Suffolk County
Steve Meyers
Brandon Muffley, MAFMC
Ed Mullis, B&C Seafood Inc.

Guests (Continued)

Thomas Newman, North Carolina Fisheries Assn.
Jay Odell, Monmouth University
Urban Coast Institute
Danielle Palmer, NOAA
Cheri Patterson, NH (AA)
Anna Quintrell, NOAA
Jill Ramsey, VMRC
Sefatia Romeo Theken, MA DFG
Daniel Salerno, NEFMC
Zachary Schuller, NYS DEC
Chris Scott, NYSDEC
Tara Scott, NMFS
McLean Seward, NC DEQ
Amanda Small, MD DNR
Somers Smott, VMRC
Renee St. Amand, CT DEEP
Elizabeth Stratton, NOAA
Kristen Thiebault, MA DMF
Chad Thomas, NC Marine & Estuary Foundation
Mike Waine, ASA
John Whiteside
Kelly Whitmore, MA DMF
Angel Willey, MD DNR
Travis Williams, NC DEQ
Daniel Zapf, NC DEQ

The Spiny Dogfish Management Board of the Atlantic States Marine Fisheries Commission convened in the Jefferson Ballroom of the Westin Crystal City Hotel, Arlington, Virginia, via hybrid meeting, in-person and webinar; Thursday, May 2, 2024, and was called to order at 9:00 a.m. by Chair Pat Geer.

CALL TO ORDER

CHAIR PAT GEER: Good morning, everybody. My name is Pat Geer; I am the Virginia Administrative Proxy for the Commonwealth of Virginia. I am the Chairman of the Spiny Dogfish Board here today. To my left is Major Chris Baker from Massachusetts; he is on the Law Enforcement Committee. To my right is James Boyle, fisheries management coordinator, and online is Jenny Couture, who is with the New England Council. We have general things we have to do, the Board Consent.

APPROVAL OF AGENDA

CHAIR GEER: We have to first do the Approval of the Agenda. Does anybody have any changes to the agenda, modifications and additions? I have one; Major Baker has a few comments he wants to make after the two presentations today, so I would like to add that if there is no opposition to that. Hearing none; the agenda is approved with the changes we have.

APPROVAL OF PROCEEDINGS

CHAIR GEER: Moving on to the Proceedings. Any additions or changes to the proceedings from the last meeting? Hearing none; the proceedings are approved by consent.

PUBLIC COMMENT

Moving on to Public Comment. Do we have anybody who wants to provide public comment for items not on the agenda today? Anybody in the audience? Anybody online? Nobody online. We'll move on.

REVIEW ACTION BY THE MID-ATLANTIC AND NEW ENGLAND FISHERY MANAGEMENT COUNCILS (MAFMC AND NEFMC) TO REDUCE STURGEON BYCATCH AND CONSIDER COMPLEMENTARY ACTION

CHAIR GEER: Our main item today is Item Number 4; which is a Review of the Action by the Mid-Atlantic and New England Fishery Management Council to Reduce Sturgeon Bycatch and Consider Complementary Action. There is a possible action with this, and we're going to have three presentations now. We'll have a presentation by Ms. Couture; she'll review the final actions, and then James will provide the Review of Consistency of Federal and State Management for Spiny Dogfish. I will turn it over to Jenny at this time.

REVIEW MAFMC AND NEFMC FINAL ACTION

MS. JENNIFER COUTURE: Hi, my name is Jenny Couture; I'm with the New England Fishery Management Council. Today as mentioned, I'm going to walk you through the joint action by both the New England and Mid-Atlantic Management Councils on the sturgeon action, meant to reduce bycatch in both the monkfish and spiny dogfish fisheries.

Just as a reminder, in case folks don't know. The purpose of this action is to show the 2021 Biological Opinion and its Sturgeon Action Plan, which required a reduction in sturgeon bycatch in large mesh gillnet fisheries. What I'm discussing with you today is specific for the monkfish and spiny dogfish fisheries. About halfway through this action last summer, the Regional Administrator shared with us, both Councils, that the incidental take statement for sturgeon had been exceeded by a large amount, and mortality rate had also been shown to increase.

I bring this up, because a new Biological Opinion was reinitiated last September, and is expected in early 2025. This new reinitiated Biological Opinion will account for this current Council's joint action, and also the stock assessment that is ongoing by the Commission. I bring this up, because as a result of this new Biological Opinion, there may be

additional measures required to further reduce sturgeon bycatch.

There is a hope that a jeopardy finding won't be found, but I guess time will tell. Just as a reminder, the Atlantic Sturgeon population, there are five distinct population segments, all listed as endangered except for the Gulf of Maine, which is just listed as threatened. The last assessment was done in 2017, and as I mentioned, there is an ongoing 2024 assessment that will be complete by later this summer, with information available from you all mid-July is what we heard.

Both the Councils put together a range of alternative packages, the first is of course no action, like all of our actions we have Alternative 1, no action. Alternative 2 through 4 range from high sturgeon impacts, high being the greatest number at time/area closures and gear restriction measures in place, and 4 being the most targeted approach, so the fewest time/area closures and the fewest gear restriction measures.

Then Alternative 5 is only gear restriction measures. The thought behind that was that the technical group wanted an option that didn't involve a time/area closure, given that would have a high impact to the fisheries, so looking at only gear restriction measures. For monkfish that would be the low-profile gillnet gear requirement, and then dogfish, which you're most interested in, is an overnight soak prohibition.

There were a couple of sub-alternative exemptions for the dogfish overnight soak prohibition, for vessels using smaller mesh, so less than five and a quarter inch mesh. You'll notice that figure on the right, all of those time/area closures and the gear restriction measures apply to those polygons on the right. The one I have highlighted, kind of the magenta one in the blue southern ones off of Delmarva, are specific for spiny dogfish.

That is where those measures would apply. You will also notice that I bring this up, because while these measures apply to federal vessels targeting spiny dogfish, for example, they are applicable in both federal and state waters. This just shows these a little bit more zoomed in measures. You can see the Lat and Long for those, and again, want to emphasize that these measures do apply for both federal and state waters, but only for vessels holding and using a federal permit targeting spiny dogfish.

Overall, for the impacts, we really relied heavily on our partners within NOAA to help out with some modeling work. I don't know how familiar you are with the Decision Support Tool. That tool was used, and I'll get into more in a couple slides on this, but used for more of the sturgeon impact analysis, and the impact on both of the fisheries, specifically on the time/area closures. The main finding was that the time/area closures were not as effective as initially anticipated. Sturgeon risk was found to be a little bit more diffused, and not really concentrated in any particular areas.

I do want to note that there are a few pieces of literature that suggest that sturgeon is more concentrated in estuaries during certain times of the year, and then move further offshore in fall and winter. That is some caveats to keep in mind with those results. The overall amount of gear removed or displaced from those time/area closures was again, relatively low.

Based on where, again I'll get into this in a couple of slides, but overall low based on the whole coast. But there are some really high regional impacts that would be affected from those time/area closures, and that is the cost to industry would also be pretty high for those. Then regarding the gear restriction measures, so low profile for monkfish, and then overnight soak prohibition for dogfish could be substantial, but relative to that time/area closure, the gear modifications at least enable fishermen to keep fishing.

On the slide is what both the Councils selected as their preferred alternative, and is moving forward

with submitting an environmental assessment document to the Agency. As I mentioned, Alternative 5, this is the monkfish low profile gear requirement, and that would be applicable for off New Jersey year-round.

But again, I know you're all interested in spiny dogfish, so I'm going to focus on that. As you can see on the table below, again these are federal vessels targeting spiny dogfish in both state and federal waters, thus there would be no measures applicable for state vessels fishing only in state waters, which I believe is what you all would be discussing shortly. Except for the Council action, so for New Jersey the overnight soak prohibition would be applicable to that magenta-colored bycatch polygon that I showed on the initial side.

That would be applicable during the months of May and November. Then off of Delmarva, both of those blue polygons would be applicable from November 1 to the end of March. These are based on looking at observer data when sturgeon bycatch was seen as greatest in those months. There were a couple of sub-alternatives for the dogfish overnight soak prohibition added by the Mid-Atlantic Council a couple of months ago.

These would be applicable for vessels using smaller mesh, so those vessels would be exempt from the overnight soak probation. The first alternative was applicable to the New Jersey polygon, and the second was the Delmarva polygons, which you'll see later the Council selected an exemption for the Delmarva polygons.

The technical teams further evaluated the data that we had available to see if an exemption would make sense. Regarding the potential exemption off of New Jersey, there weren't enough observed trips with the smaller mesh to evaluate any real difference in encountering it. You'll see a list of gear on the right. November and May did have the highest encounter rates, which does correspond with the overnight soaks. But the technical teams were a bit concerned with the low observer coverage to make any sort of recommendations. Then the trips targeting spiny dogfish in what would actually be the Delmarva area. You can see the figure on the left shows the sturgeon catch by different mesh sizes, and you can see that smaller mesh does have a lower sturgeon take, especially compared to the larger mesh. By month we see that December does have the greatest number of interactions with sturgeon, again based on the observer data that we had available.

Getting to recommendations, the Fishery Management Action Team, the Plan Development Team, those are just the technical teams that I've mentioned across both New England and Mid-Atlantic Councils, evaluated all of these data. With regard specifically to spiny dogfish, as I mentioned, there is a recommendation to have no exemptions for that smaller mesh, given the low observer data.

We brought this forward to the Dogfish Advisory Panel, who had mixed opinions with some stating that day soaks could be possible and reasonable, while others disagreed. We met with a joint Monkfish and Spiny Dogfish Committee shortly thereafter, and there was a recommendation from that joint Committee to essentially use the observer data from the Delmarva area as a proxy for New Jersey, and to exempt the overnight soak prohibition in the months of May and December for that smaller mesh.

Then moving on to the Delmarva region, so those are the two blue polygons in the southern area. Again, the technical teams discussed and recommended an exemption for that smaller mesh in all of the months except for the month of December, which had the highest observed sturgeon take per trip. The Dogfish also discussed this, and wanted an exemption for all months, and then noted that this measure would be equivalent to a closure if an exemption wasn't put in place.

The Joint Committee also recommended an exemption for all months for that smaller mesh, and really wanted to better understand the sturgeon

assessment and the new Biological Opinion, before putting in any additional measures that could be really detrimental, and also the need to balance between the economic impacts from any measures, and then other protected species impacts as well.

Then all of this information is brought forward to the Mid-Atlantic Council, which met in early April, and then followed by the New England Council meeting, which met, it feels like last week, but I think it was a couple weeks ago at this point. Recommended, again this is dogfish, only if you're interested, monkfish on the slide. Feel free to let me know and I can share information.

But for dogfish, move to adopt Alternative 5, so this would mean specifically off of New Jersey there would be no exemptions for the smaller mesh, which means there would be an overnight soak prohibition in the months of May and November. Then for Delmarva there would be an exemption for the smaller mesh, so that means that vessels using smaller mesh could do overnight soaks year-round

Then for mesh greater than or equal to five and a quarter inch could not do overnight soaks from November through March. Then I included this, just in case it was helpful information for you all. The Councils both agreed to write a joint letter to the Observer Program, essentially to develop and implement a carcass tagging program for both dead sturgeon discards, and also for a tagging program for live sturgeon discards for any fishery fishing at any area, using any gear type. This was brought up, because there is some concern that fishermen were catching the same sturgeon on multiple trips, and it was being counted, essentially double counting sturgeon take, so if there was interest in trying to address this concern.

Then here we are today, so just presenting this information for you all to consider for any potential action you all are thinking about taking for spiny dogfish, applicable for the state waters. More for your awareness, we are working on submitting the EA to the Agency, and all of those measures have to be in place by the end of 2024 to meet the 2021 Biological Opinion. Those measures should be in place by the end of this year. I think those are all of my slides. Yes, but I would be happy to take any questions.

CHAIR GEER: Okay, thank you very much, Jenny for that great presentation. Are there any questions for Jenny at this time? Not seeing any. No questions at all?

REVIEW CONSISTENCY OF FEDERAL AND STATE MANAGEMENT OF SPINY DOGFISH

CHAIR GEER: Okay, at this time we'll move on to James, who will give a Review Consistency of the Federal and State Management of Spiny Dogfish.

MR. JAMES BOYLE IV: This is a very brief presentation, as sort of a follow up to Jenny's. One objective of the spiny dogfish FMP is to strive for complementary management of spiny dogfish in both federal and state waters. As was just laid out, the Mid-Atlantic and New England Fisheries Management Councils have selected their preferred alternative, and a final rule is expected from NOAA Fisheries by the end of the year.

Here is a short summary of the changes that were jut presented. The map may be a little tough to see, but they are the same you just saw, and also in the draft EA that is in the briefing materials, if you would like to get a closer look. The preferred alternative would establish a prohibition on overnight soaks, which is defined as 8:00 p.m. to 5:00 a.m. within the New Jersey and Delaware, Maryland, Virginia polygons shown in the figures for only federal spiny dogfish permit holders.

In New Jersey the prohibition would be for the months of May and November, and in Delmarva it would last from November through March. Additionally, only in the Delmarva polygons mesh sizes less than five and a quarter inches would be exempt from the prohibition. Possible action for

the Board today is to either take no action, where only vessels with a federal permit would be affected, whether in state or federal waters.

Alternatively, the Board may initiate an addendum to maintain consistency between the spiny dogfish FMP and the federal FMP or the Board may devise an alternative action as it sees fit. With that, I'm happy to also take any questions or pass it over to Chris for Law Enforcement comments.

CHAIR GEER: If anybody has any questions for James, before we turn it over to Chris. Seeing no questions, Major Baker is going to give a brief synopsis of what the Law Enforcement Committee talked about for spiny dogs in this issue. Go ahead.

MAJOR CHRIS BAKER: I think it will make everyone happy, I only have one comment. Based on the Law Enforcement Committee's enforceability guidelines, it is the LECs opinion that closed areas should be considered in combination with vessel monitoring systems when practical. That is all. Thank you, Sir.

CHAIR GEER: Thank you very much, Major Baker. Let's open it to the floor for any other questions or comments. Not hearing any. Yes, Craig.

MR. CRAIG PUGH: A little industry background. Dogfish are noted for swarming. They are either feast or famine when we catch them. In these swarms they become an apex predator, which industry recognizes, especially weakfish for their depletion. Careful as we go here, you may create a bigger problem than what you expect with restrictions.

Understand that there should be a dogfish fishery if you want to see other species exist and be tolerant. That would be my cautionary advice here. Not many people realize that. They have been noticed, I see in Virginia waters in gillnets, to strip fish, whether it be weakfish, or striped bass to push them to the bottom, strip those fish while they exist in the net, and then become dead discards. They can be in large quantities a true adversity to our ecosystem. Careful as we go here.

CHAIR GEER: Are there any other comments? Can you put that last slide we had up there back up, so we can just see what our options are moving forward. Okay, Nichola.

MS. NICHOLA MESERVE: I would be prepared to make a motion in line with the potential action that is on the board here, if you're ready for it. I would **move to initiate an addendum to maintain consistency between a spiny dogfish FMP and the recommended alternatives of Spiny Dogfish Framework Adjustment 6**.

CHAIR GEER: All right, second by Emerson Hasbrouck. Do you want to respond to that?

MS. MESERVE: Sure, I think that motion largely speaks for itself. We've been tracking this joint council action with an eye towards taking habitable action at some point if needed. I think we're at that juncture now, where final action has been taken by the Councils, and we could move forward with an addendum to ensure that state-only harvesters are subject to the same gear restrictions as the federal permit holders. If I remember correctly, about 40 percent of the sturgeon interactions with large mesh gillnet were estimated to be in state waters, so we're not taking some compatible action here, you know it isn't a trivial thing. That's all I have.

CHAIR GEER: Emerson, do you want to add anything to that?

MR. HASBROUCK: No, I think it's advisable for us to be consistent with what was just recently approved by Mid-Atlantic Council and New England Council.

CHAIR GEER: Chris Batsavage.

MR. CHRIS BATSAVAGE: Yes, I support the motion. Still trying to understand how this would functionally work in state waters, you know for consistency purposes. If this was in place, and you

couldn't fish gillnets five and a quarter inch and greater overnight. Enforcement really doesn't know what those nets are targeting.

I guess it could potentially impact some other fisheries using mesh sizes in that range, in order to effectively enforce this in state waters, if I'm understanding this correctly. I'm just looking for some clarification from staff and others around the table, just to get a full understanding of how this could differ, as far as impacts in state waters, versus what we have in federal waters, considering that there are certain state waters fisheries that occur that don't happen in federal waters.

CHAIR GEER: James.

MR. BOYLE: Yes, I'll defer to Major Baker, if he has any different points, but my understanding from talking to Law Enforcement Committee on Tuesday was that they want to use VMS. Obviously, it makes it easier to enforce on a broader scale. But like if they came across a net.

They could tell, not necessarily what they were targeting, obviously, but what they are permitted for. The measures only apply if they are permitted for dogfish, so if they are not targeting dogfish, then they are targeting something else, and they would be not subject to these regulations.

CHAIR GEER: Chris, follow up.

MR. BATSAVAGE: Thanks, but in state waters, a lot of states don't have a state dogfish permit, like North Carolina, and I know this doesn't apply there. You have a commercial fishing license that allows you to fish for a variety of species in state waters, using different gears. I'm not sure how that is going to work in the states north where these polygons are.

But it may not be as cut and dry for state managed fisheries, as it is for federal fisheries, where you do have federal dogfish permits and bluefish permits and things like that. Again, I support this, but I think as long as we all fully understand how this is all going to work in state waters, I think is important. If nothing else, as we develop this addendum.

CHAIR GEER: Okay, I have Toni.

MS. TONI KERNS: To that question then, Chris. I have a question to Jenny, if she is still on, or if Carson is on, or even James. When the FMAT was discussing how these measures would extend into state waters, did you all discuss how these state permits that are not specific for dogfish, but allow for dogfish to be caught under a general category permit would be affected? Was it the PDTs intention for these gillnets to also be general category gillnets to apply?

MS. COUTURE: Hi, this is Jenny. That is a great question. I would say maybe James can elaborate more, but the PDT and FMAT didn't discuss specifically that question. I was just pulling up our environmental assessment document, and we do frame it as vessels with federal spiny dogfish permit using gillnet gear with mesh size of 5 to less than 10-inch mesh. We had a dedicated meeting about enforcement, how this would work. But we didn't go into the level of detail that you're asking. I think there was an anticipation that that would be discussed by you all. But again, maybe I'll see if James has anything else to add.

CHAIR GEER: Go ahead, Toni.

MS. KERNS: A follow up then. The EA would not include these state vessels, so we don't know the volume of vessels that would be impacted by these measures then.

MS. COUTURE: Right, we were only focused on vessels with a federal spiny dogfish permit, recognizing that we were not accounting for state-only vessels fishing in state waters. If that makes sense.

CHAIR GEER: Mike, did you have your hand raised?

MR. MICHAEL LOUISI: I did, thank you, Mr. Chairman. I just wanted to make sure it is safe for me to kind of look at this through the lens that the actions that are being considered by NOAA Fisheries as a result of the Mid-Atlantic and the New England Council's actions are an attempt to slow down, minimize the interactions with sturgeon. It's a solid attempt to do that.

But it is not a full and complete suite of actions that could be considered in the future, if sturgeon interactions continue at the rate that they currently are being seen. I know where Chris is going. We have some state water fisheries that use gillnets within that range that is going to be what sturgeon are susceptible to.

But instead of lumping that all together in one gigantic action, you know I see this as a first initial step to address the concerns from the Biological Opinion. When we can get new information, maybe we may have to go down the path of considering taking actions on other species through other boards, as a result of this.

I hesitate to say the word, but you know a striped bass fishery in state waters through gillnets is something that might need to be addressed down the road. But I don't think today is the day to start trying to figure all that out. I think to be complementary with the federal management requirements that are likely, as a result of the actions by the Councils, I think this is a good first step.

CHAIR GEER: Yes, I was thinking the same with our fishery in Virginia with the striped bass. Are there any other comments? Adam.

MR. ADAM NOWALSKY: What timeline are we looking at, given that we don't know the timeline of federal action on this? What would be the scope that would be included here, given that while unlikely to deviate from what as recommended jointly by the Mid and New England, we can't guarantee that those are the measures that will ultimately be implemented. What timeline are we looking at, and would this framework have specific measures as put forward by the Mid and New England, or would it be some general statement that would just say, we intend to have consistency moving forward?

CHAIR GEER: Allison Murphy is in the room, or is she online? She is online, she might be able to answer that question from NMFS.

MS. ALLISON MURPHY: I had my hand up to speak in favor of the motion, and just generally support consistency between state and federal measures. I think during the slides, I believe staff's presentation indicated that NOAA Fisheries was working toward having our measures in place by the end of the calendar year.

We don't have the document yet from the Commission. Council staff's presentation indicated that they were still working on that as well, and so when we receive the document that will really kick off the schedule for our potential rulemaking. Perhaps Commission staff might be able to answer potential timelines on the Commission's end.

MS. KERNS: Adam, for timeline for the Commission, we would draft a document for this Board's review at the August meeting to be approved for public comment. We would go out for public comment between now and the annual meeting, and approve the document at the annual meeting.

A question to the states is, would that allow you all to get your measures in place for the start of the fishing year in January, if that is truly what NOAA will be achieving for this year. I think we can include some language in the document that allows for some flexibility, if the Regional Administrator does not approve the measures that are recommended by the two Councils.

I think what I'm hearing today is that this Board is asking for the PDT to draft measures that are for federal dogfish permit holders only at this time. I think that is the direction that I heard, but I want to make sure that that is what I am understanding. If it's not, that you're asking for measures that are for

federal dogfish permit holders. If it's not then we need to have an understanding to the PDT to how to deal with these gillnets that are in these catch-all licenses.

CHAIR GEER: I'm seeing a lot of faces shaking their head on that one. I'll go to Adam, and then I'll go to John.

MR. NOWALSKY: I'll let others jump in on that second part, but I'm just trying to work through the timeline in my mind here. The Service is hoping to have this final rule done by the end of the year. You are talking about having a document go out to public comment in August, and final action in October, which may before a proposed rule is even published by the Service.

I understand there is an expectation of what it's going to be, but it just concerns me that what we're going to look at taking out to the public. We're not even going to be able to go back and reference a proposed rule yet for what these federal measures that we're trying to be complementary for are going to be. Maybe I'm on an island here, maybe I would like to be on an island right now, with regards to being the only one concerned about that. But it's a concern of mine that we're going to take something out about something that may happen in the future, but isn't actually even in proposed rulemaking yet. That is a concern to me.

CHAIR GEER: I think, Adam, we're all kind of concerned about that. The nuances we have to play with this. I have John, then I have Nichola.

MR. JOHN CLARK: Pardon my confusion here. But the comments from Chris and Mike, and what Toni was just saying. I'm just confused, for state waters this would only apply to those who have the federal permits, because if not, this is a huge problem, because we have larger mesh gillnet fisheries that have overnight soaks that would be in this closed period. As it is now, I'm just kind of confused about the whole thing and slightly freaked out.

CHAIR GEER: Nichola.

MS. MESERVE: In response to Adam's comments about the timeline. I think the Board can have that discretion at the August meeting whether we're ready to send it out for public comment. That may be more complicated, that we might now be ready anyways, and again at the annual meeting, you know whether or not we're prepared to take final action then can be a decision of the Board. I think an implementation deadline could also differ from what is proposed in federal rulemaking, if states need additional time.

But in response to what Toni just said earlier, I was under the impression that the federal action, the Council's action applies to federal permit holders, whether they are fishing in state or federal waters. The intent of our complementary actions here is to apply to state only permitted harvesters fishing just in state waters, and how we figure out which group of harvesters that is, may be something that our PDT needs to address, in how it comes up with the options that we're looking at, and address them.

CHAIR GEER: Joe Cimino.

MR. JOE CIMINO: Toni, do you want to go first?

MS. KERNS: I just would say, if the Board could provide the PDT some direction relative to that, Nichola, today, like some questions that you want them to be thinking about and some options you may want to see back from them. I think that would be very helpful for this PDT, in particular, I didn't realize that the federal EA did not analyze the number of state permit holders in their analysis. We'll have some work to do on our end that is more than I anticipated walking in there today.

CHAIR GEER: Joe Cimino.

MR. CIMINO: Yes, this is really now, being a Mid-Atlantic Council member, really stretching my understanding of gear. I was shocked to hear that NOAA had concerns that fishing observations in the Delaware/Maryland region wouldn't apply to observations in New Jersey waters, and we're

talking about a threatened species that we're hoping to avoid a jeopardy finding. Now suddenly, you have the same gear out in the water, but it's fishing for a different species, targeting a different species. Then sturgeon isn't still in jeopardy? My understanding was, I was going into this as an overnight soak for these times for gear, to protect an endangered species. I'm really confused at what this conversation is even about right now.

CHAIR GEER: Any other comments? Well, we have a motion on the table. Mike.

MR. LUISI: I'm sorry, I had a thought, but I'll hold off. I think they're thinking maybe something like I was, but I'll let it go.

CHAIR GEER: Roy had his hand up too. Roy, did you have your hand up?

MR. ROY W. MILLER: I did, Mr. Chairman. I think we need more specificity in this motion, because it doesn't say it applies to federal permit holders only. It doesn't say whether it applies in state waters. How about state water fishermen who fish for other species, like striped bass has been mentioned, who don't have federal permits. Does it apply to them, and if so, then it's a really big deal, particularly for our jurisdiction.

CHAIR GEER: Do we want to make a modification to the amendment? Toni.

MS. KERNS: I think the PDT can come back to you and provide you with information. I just think if you all could give us, it doesn't have to be in the motion, but if you could just give us some guidance to say, provide options that are for just the federal dogfish permit holders, provide options that include dogfish directed permit holders, options that include a catch-all permit holder. Something, I just think the PDT needs some direction.

We're looking for, was everybody thinking about it like Joe was thinking about it? Were people thinking about it like Chris was thinking about it? I just don't know from the conversation at the table, it was starting to become unclear to me what people were thinking they were going to get back in August. If you want us to provide options for all of the above that I just did, we can do that. The PDT could use a little direction.

CHAIR GEER: Go ahead.

DR. JUSTIN DAVIS: I just have a question about timing. What would be the downsides of postponing this motion for consideration at a later meeting, and spending some time working through some of these issues away from the table? It just seems like there were a lot of questions flying around. But I don't understand the potential need to get this addendum started today versus at a future meeting. I was just looking for some guidance on that.

CHAIR GEER: I would say the one downside, I mean I think it is a good idea. The one downside was it wouldn't be finished this year. But if the federal rule has flexibility of when we adopt this, you know we probably could still do it in the February meeting.

MS. KERNS: Yes, we would just be delayed one meeting cycle, so we would finish in February. I guess we could potentially hold a special board meeting if we felt it was necessary to do so in December, it would probably be late December, try to give us enough time to have those public hearings after the annual meeting. But you could definitely do that, we would just still run some questions or direction for staff to work with your state folks, to gather the information that would help us answer these questions.

CHAIR GEER: Emerson.

MR. EMERSON C. HASBROUCK: As Joe mentioned a couple of minutes ago, the basis for the action at the Mid and New England Councils for the determination by NMFS that "something has to be done, to reduce sturgeon interactions," because the takes were exceeded. As I recall in the discussion to

both Councils, NMFS did not provide any specific reductions, they just said that something needed to be done.

The results of NMFS looking into what can be done to reduce sturgeon interaction, what rose to the surface, if you will, was the monkfish and dogfish gillnet fisheries. That is what they determined needed to be addressed relative to sturgeon interaction, with the hopes that there isn't a jeopardy determination.

In my mind, seconding this motion, in order to maintain consistency with what was done at the Mid and New England Councils, was to look at, well we're not talking about the monkfish fishery here, we're talking about the spiny dogfish fishery. That was my intent was the spiny dogfish fishery. I understand that states don't have a dogfish endorsement on their commercial license. But my perspective on this, is that dogfish fishery, not gillnet fisheries for other species.

CHAIR GEER: Mike Luisi and then John Clark.

MR. LUISI: Yes, I would just like to say that I agree with Emerson. You know the dogfish fishery is where we should be focusing this, and how it relates to federal waters permit holders and state waters fisheries, whether a state like the state of Maryland, we have a spiny dogfish permit that is for state fisheries only. Not every state has something like that.

I think when we open this up, if we consider opening it up, I don't even know how functionally we would take on like a gear omnibus amendment or an addendum to all the species that we oversee, and all of the different gillnet gears that are used. That is an entirely different process, in my opinion, and one that I honestly prefer not to step into right now.

I could support a delay if we think we need to have further conversation, but I think if we focus on dogfish, and as Toni mentioned, have the PDT come back with a handful of different ways to craft rulemaking in the states, as it is consistent with what the potential federal rule would be. I think that would give us enough to start, to have a more informed discussion at the next meeting. I'm supportive of this, but I also if others have concerns about where this is going to lead, I could see postponing it as well.

CHAIR GEER: John Clark.

MR. CLARK: Emerson brought up a point about the take being exceeded for these federal water fisheries. Speaking as a state that we have not yet had our state water fishery Section 10 permit go through the process yet. This is getting into a very sensitive area. I would like to follow up on what Justin said, and **move to postpone action on this current motion until the next meeting**, and in the meantime assign to the PDT to answer some of these questions that we've had come up.

CHAIR GEER: That would be a substitute motion, correct?

MR. CLARK: Well, it's just a motion to postpone.

CHAIR GEER: Is someone else in favor of that? I see Justin's hand go up. Do we need to take a vote on that? Okay, does anybody? Jeff, you have a comment?

MR. JEFF KAELIN: Yes, I would like to raise another issue while we're kind of stumbling around here right now. I'm getting texts from industry people that there is some confusion, I guess, that some of these guys think they can use five and a quarter for the overnight soak, but I'm reading the memo, and that the Councils decided, no you can't.

There is some confusion around that. I'm not sure if the staff can help me out on that. I mean, I don't see us making that change here today, but there is just some general confusion about that. The memo seems pretty clear that you can't use it. I just wanted to put that on the record today as a question.

MR. BOYLE: Yes, just to clarify, Jeff. The exemption only, as it was passed by the Councils, would exist in the Delmarva polygons, so New Jersey, the five inches and up, if any, just would count as being regulated under these provisions.

CHAIR GEER: Are there any other comments about tabling this motion until the next meeting? **Is anyone opposed to tabling this motion until the next meeting?** Point of order, I'm sorry.

MR. LUISI: I would just say for the record to postpone instead of a tabling has different consequences, in August.

CHAIR GEER: Postpone, okay, is anyone opposed to postponing this motion? Hearing none. Jenny has her hand up, wait one second.

MS. COUTURE: Sorry, I didn't mean to interrupt, but I just wanted to clarify a few things that have been said so far. To confirm, the Council, the joint Council action, those measures apply to federal spiny dogfish permit holders fishing in either federal and state waters. The missing piece, if you wanted to take complementary action would be to apply those measures to state boats fishing in only state waters.

That is why, from the Council perspective, we kind of thought that that level of work would be done by you all, because those are the state boats fishing in state waters. That is why that analysis is not included in the Council action. Then also to clarify, so the federal measures have to be in place by the end of 2024, and that is to meet the 2021 Biological Option. We're expecting, I guess based on ten-line questions, I'm waiting for our Executive Directors to review the report that the draft document that comes with SES has sent them. But we should be submitting that draft EA to the Service, probably within the next week, would be my guess. A proposed rule, I don't want to speak on behalf for the Agency, but I know the proposed rule is being drafted right now as well, so hopefully you'll have more information soon on the timing on that. But again, I don't want to speak for the Agency. I know Alli Murphy is online here. Then yes, I think those are a couple of corrections that I just wanted to make. Sorry to interrupt.

CHAIR GEER: Thank you, Jenny. **Hearing no opposition to postponing this, everyone is nodding their head yes.** Okay, Megan.

MS. MEGAN WARE: I just had a comment or request for things that I think would help us at our next meeting if you're ready for that.

CHAIR GEER: That's what I, do we want to have the TC or the PDT provide us some information, and if so, can we give them some guidance. Megan.

MS. WARE: Something that I would find really helpful is for the Mid-Atlantic states that are potentially impacted by this, just understanding what permit you're using for spiny dogfish, how many species it applies to, how many people have had permits. That can be in a table format by the states, so just getting an understanding of how your permitting structure works would be really helpful. If you could send that to James, that would be great.

CHAIR GEER: I have Toni.

MS. KERNS: This is for Alli, I guess. That NOAA indicates to us whether it was your expectation, because a lot of the states do not specifically have a dogfish permit, was it your expectation that these catch all permits were to be included, or were you only looking for those fisheries that have a directed dogfish permit to be included?

CHAIR GEER: Is there anything else we want to request we look at the next meeting? Mike.

MR. LUISI: I think it would be, well it would be helpful for me, if James could put together what the request is, and we could respond, so that we're all sending the same information. Rather than us trying to figure out what each of us are thinking and

sending that into James in all different formats and things. I think it would just simplify it, if that is okay.

CHAIR GEER: James is feverishly typing over here, so I'm sure he's taking down everything we said. Anything else we want to try to bring up for the next meeting? **All right, do we have enough to go on? I can see problem thumbs up**. That was our last major thing of business today.

ADJOURNMENT

CHAIR GEER: Is there any other business to come up before this Board? Hearing none; I thought this would be a short meeting. I have a real scratchy throat, so I apologize. I've been on the road the last three weeks. My voice is almost gone. With that; thank you very much for your patience, and this meeting is adjourned.

(Whereupon the meeting adjourned at 9:54 a.m. on Thursday, May 2, 2024)

Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **Spiny Dogfish Management Board**

FROM: **James Boyle, FMP Coordinator**

DATE: **July 22, 2024**

SUBJECT: **State Regulations Pertaining to Sturgeon Bycatch**

In April 2024, the New England and Mid-Atlantic Fishery Management Councils selected their preferred alternatives to Spiny Dogfish Framework 6 to reduce bycatch of Atlantic sturgeon. The recommended measures would establish a prohibition on overnight soaks (8pm-5am) for federal spiny dogfish permittees using gill nets of 5-10" mesh in May and November within the New Jersey polygon and 5.25-10" mesh from November through March within the Delaware, Maryland, and Virginia polygons (Figure 1).

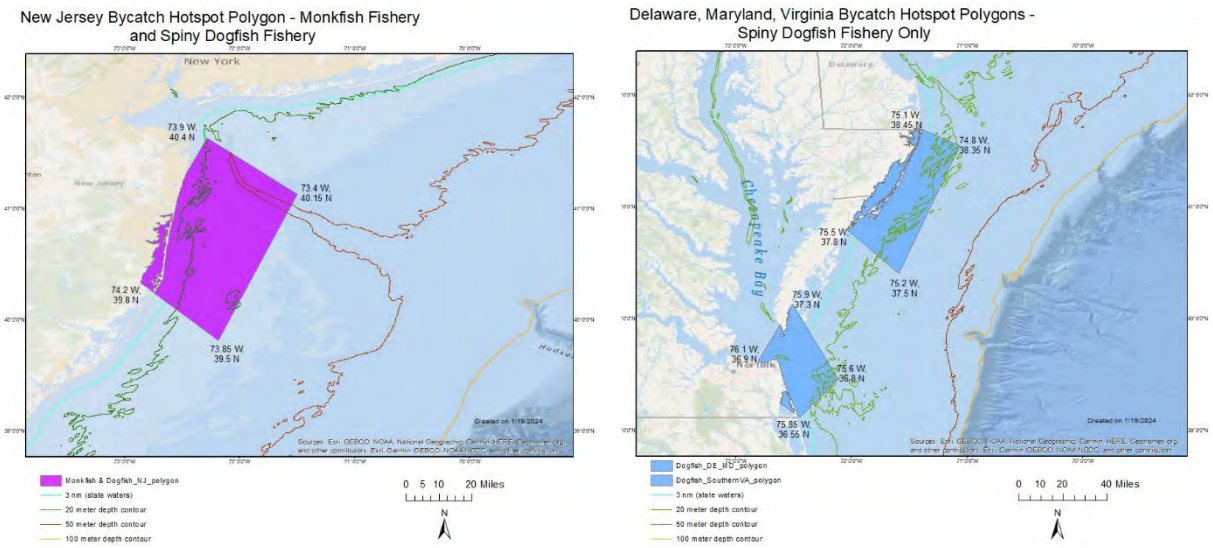


Figure 1. New Jersey and Delaware, Maryland, Virginia Polygons from Spiny Dogfish Framework 6.

Complementary State Actions

Due to the variable nature of state permitting, complementary action may take different forms. Table 1 provides a summary of the permitting structures for New Jersey, Maryland, and Virginia. After additional review, Delaware state waters do not overlap with the polygons and have been omitted from the permitting analysis.

Table 1. Summary of permitting structure for affected states.

State	Permits that May Land Spiny Dogfish	Number of Permittees that use Gillnets	Other Gillnet Species in Permit
NJ	Gillnet	585	Shark, Large Skate, Smooth Dogfish, Bluefish
MD	Finfish (1,000 lb trip limit)	Unknown	Bluefish
	Striped Bass (2,500 lb trip limit)	52	Striped Bass
	Spiny Dogfish (10,000 lb trip limit)	25	N/A
VA	Spiny Dogfish	75	N/A

Based on current state regulations and permitting, below are the different actions required by each state depending on whether the Board prefers to target only spiny dogfish permittees, similar to Framework 6, or all gillnets of the necessary mesh size within the polygons and timeframes.

If only applying to the dogfish fishery:

New Jersey: No action required. New Jersey requires harvesters to possess a federal spiny dogfish permit to sell or offer to sell spiny dogfish, regardless of where the fish were caught. Since the most restrictive rule applies when possessing a state and federal permit, the federal measures would apply to those fishing in state waters.*

*There is one potential method to circumvent the federal permit requirement were a harvester to transit spiny dogfish out-of-state before selling. However, law enforcement has no indication of any harvesters selling out-of-state.

Virginia: Prohibit overnight soaks (8pm-5am) from November through March only for spiny dogfish permittees with gill nets of mesh size between 5.25-10".

If applying to all 5-10" gill nets:

New Jersey: Prohibit overnight soaks (8pm-5am) in May and November for mesh sizes of 5-10" for gillnet permittees. This action would affect shark, large skate, smooth dogfish, and bluefish harvesters.

Virginia: Prohibit overnight soaks (8pm-5am) of gillnets of mesh size between 5.25-10" from November through March for spiny dogfish, black drum, and striped bass permittees.

Maryland: The state has a spiny dogfish-specific permit, but striped bass permittees and general finfish licensees are also allowed to harvest spiny dogfish at reduced trip limits.

If the action only seeks to address harvesters that *primarily* target dogfish, then Maryland could prohibit overnight soaks (8pm-5am) from November through March only for spiny dogfish permittees with gillnets of mesh size between 5.25-10", similarly to Virginia.

If the action aims to restrict all potential harvesters of spiny dogfish, then Maryland would need to prohibit overnight soaks for all finfish licensees from November through March with gillnets of mesh size between 5.25-10", which includes the spiny dogfish and striped bass permittees, as well as bluefish

harvesters. Because of the tiered trip limits, there could also be a hybrid action that applies to dogfish and striped bass permittees but not all finfish permittees, which would exempt bluefish gillnetters.

Board Action

Should the Board intend to initiate complementary action, there are two primary alternatives to consider:

1. Initiate an addendum for states to prohibit overnight soaks in accordance with Framework 6 for spiny dogfish permittees.
2. Recommend the Policy Board initiate a fishery management plan for states to prohibit overnight soaks in accordance with Framework 6 for all gillnets of the designated mesh sizes.

April 2024 Council Meeting Summary

The Mid-Atlantic Fishery Management Council met April 9-11, 2024, in Atlantic City, New Jersey. The following is a summary of actions taken and issues considered during the meeting. Presentations, briefing materials, motions, and webinar recordings are available at http://www.mafmc.org/briefing/april-2024.

HIGHLIGHTS

During this meeting, the Council:

- Took final action on a joint framework action with the New England Fishery Management Council to reduce the bycatch of Atlantic sturgeon in the monkfish and spiny dogfish gillnet fisheries
- Approved a modified range of alternatives for the Summer Flounder Commercial Mesh Exemptions Framework, removing one alternative from the draft range for each issue (joint meeting with the ASMFFC Summer Flounder, Scup, and Black Sea Bass Board)
- Reviewed the 2023 Mid-Atlantic State of the Ecosystem Report
- Received an update on the development of the draft 2024 EAFM risk assessment report
- Voted to submit the Golden Tilefish IFQ Program Review package to NMFS
- Received a presentation on the golden tilefish research track assessment
- Discussed recent progress on development of an industry-based survey pilot project
- Received an update from the NOAA Fisheries regional office on habitat and offshore wind activities of interest in the Mid-Atlantic region
- Discussed fisheries compensatory mitigation programs for offshore wind energy development
- Reviewed findings from recent research on the impacts of offshore wind construction sounds on longfin squid and black sea bass
- Agreed to submit comments on proposed changes to the regulations governing confidential information under the Magnuson-Stevens Act.

Framework to Reduce Atlantic Sturgeon Interactions in the Monkfish/Dogfish Gillnet Fisheries

The Council took final action on a joint framework action with the New England Fishery Management Council (NEFMC) to reduce the bycatch of Atlantic sturgeon in the monkfish and spiny dogfish gillnet fisheries. During this meeting, the Council reviewed the recommendations from the FMAT/PDT, Monkfish and Spiny Dogfish Advisory Panels, and the Joint Monkfish and Dogfish Committee. For federal vessels targeting spiny dogfish, the Council approved overnight soak prohibitions during months of high sturgeon interactions within bycatch hotspot polygons in the New Jersey and Delaware, Maryland, and Virginia regions. In addition, they approved an exemption from the overnight soak prohibition for vessels using a mesh size less than 5.25 inches in the Delaware, Maryland, and Virigina hotspot polygons. For federal vessels targeting monkfish in state and federal waters, the Council approved a year-round low-profile gear requirement in the New Jersey bycatch hotspot polygon. The Council also agreed to write a letter to the Northeast Fisheries Science Center (NEFSC) observer program to recommend the development of a sturgeon tagging program for both live discards and dead discards for all the fisheries and gear types where sturgeon interactions occur. The NEFMC approved the same alternatives during their meeting the following week. The Councils will submit the framework to the Secretary of Commerce for review and rulemaking. Visit https://www.mafmc.org/actions/sturgeon-bycatch-framework for additional information and updates.

Summer Flounder Commercial Mesh Exemptions Framework Meeting #1

The Council met jointly with the Atlantic States Marine Fisheries Commission's Summer Flounder, Scup, and Black Sea Bass Board (Board) to review draft alternatives for a joint framework action/addendum to modify two summer flounder commercial minimum mesh size exemptions. This action considers changes to the exempted area associated with the Small Mesh Exemption Program, as well as updates to the gear definition associated with the flynet exemption to the minimum mesh size requirements. The Council and Board approved a modified range of alternatives, removing one alternative from the draft range for each issue in order to simplify the options under consideration. A revised document with additional analysis will be reviewed by the Council and Board via a webinar meeting in late spring/early summer 2024. As part of this meeting, the Board will approve a draft addendum for public comment, as required under the Commission's process to support a minimum 30-day public comment period with optional public hearings. This public comment period will take place this summer, with final action expected in August 2024.

2024 State of the Ecosystem Report

Dr. Sarah Gaichas (NEFSC) presented the key findings from the 2024 Mid-Atlantic State of the Ecosystem report. This report has been provided annually to the Council since 2017 and gives information on the status and trends of relevant ecological, environmental, economic, and social components of the Mid-Atlantic Bight ecosystem. The report evaluates the performance of different ecosystem indicators relative to management objectives and the potential climate and ecosystem risks to meeting those management objectives. Highlights from the 2024 report include:

- Commercial seafood landings and total revenue were near historic lows driven by declining landings and price of ocean quahog, Atlantic surfclam, and scallops.
- Recreational harvest remains below the long-term average, but recreational effort (in number of trips) is above the long-term average.
- Recreational catch diversity remains stable and above the long-term average and diversity is being driven by southern species.
- Many fish stocks and protected species distributions are changing in the Mid-Atlantic due to increasing temperature, changing oceanographic features, the spatial distribution of suitable habitat, and the availability of prey.
- 2023 sea surface temperatures in the North Atlantic were the warmest on record and were linked, along with low oxygen and acidification, to fish and shellfish die-offs off New Jersey and the Elephant Trunk region.

2024 Ecosystem Approach to Fisheries Management (EAFM) Risk Assessment Report

The Council received an update on the development of the draft 2024 EAFM risk assessment report. The risk assessment is intended to track ecosystem elements that may threaten the Council's ability to achieve the management objectives desired for Council-managed fisheries. In 2023, the Council conducted a comprehensive review of the risk assessment and approved a number of changes, including the development of four new elements and revisions to many of the existing risk element components. Council and NEFSC staff will work with the Council's Ecosystem and Ocean Planning Committee and Advisory Panel to complete the risk assessment and present a final report to the Council later this year for approval.

Golden Tilefish Catch Share Program Review

Council staff presented a summary of public comments received on the Review of the Golden Tilefish Individual Fishing Quota (IFQ) Program Twelve-Year Review. This report was structured around the National Marine Fisheries Service (NMFS) guidance for conducting catch share program reviews; and constitutes the second program review

for this Limited Access Privilege Program. After reviewing public comments, the Council voted to submit the Golden Tilefish Individual Fishing Quota Program Twelve-Year Review package to NMFS. In addition, the Council passed a motion to write a letter to NOAA Fisheries encouraging them to evaluate the possibility of expanding the use of the Fish Online web portal to track golden tilefish IFQ allocation transfers and track current allocation to assist with quota and program management. The full report is available at https://www.mafmc.org/tilefish.

Golden Tilefish Assessment Overview

The Council received a presentation on the golden tilefish research track assessment which was peer reviewed in March 2024. Several improvements were made to the assessment, including transitioning the assessment model from the Age Structured Assessment Program (ASAP) to the state-space Woods Hole Assessment Model framework (WHAM; using 2021 management track data). In addition, the research track assessment developed an ecosystem and socioeconomic profile (ESP), developed a new recreational catch time series, evaluated various data sources that may be used to better understand trends in abundance, and developed method to transition vessel trip report landings (VTR) per unit effort (LPUE) index to newly developed catch accounting and monitoring system (CAMS)-based LPUE index amongst others.

The next steps in the assessment process include a management track assessment in June 2024 (to include data streams up to 2023) to provide updated estimates of stock status and set catch limits for the 2025-2027 fishing years. Future management track assessments will address research recommendations identified by the peer review.

Northeast Trawl Advisory Panel Industry-Based Survey Pilot Project Update

The Council received an update on development of an industry-based survey pilot project by the Northeast Trawl Advisory Panel. The goal of the project is to test the viability of an industry-based survey as described in the white paper titled "Draft Proposed Plan for a Novel Industry Based Multispecies Bottom Trawl Survey on the Northeast U.S. Continental Shelf." The Northeast Trawl Advisory Panel (NTAP) met on February 8, 2024, and the NTAP Bigelow Contingency Plan working group met on February 29, 2024, to continue their discussions of the pilot project and develop recommendations for Council consideration. Staff noted that although the NTAP and NTAP Working Group have made substantial progress, there are still a number of details that need to be further developed at future meetings. Staff also noted that the NTAP Working Group recommended meeting with regional scientific survey staff and vessel owners/operators that may be interested in participating in the pilot project to discuss the topic.

Habitat Activities Update

Jessie Murray, from GARFO Habitat and Ecosystem Services Division (HESD), provided updates on recent habitat consultations related to coastal development, infrastructure, and upcoming federal navigation and civil work projects from the New York and Philadelphia Districts of the Army Corp of Engineers. She shared information on the Historic Area Remediation Site (HARS) and early Environmental Protection Agency (EPA) considerations for an offshore fishery enhancement beneficial use site in the New York Bight. It was noted that EPA will be reaching out for input on HARS in the future. She also updated the Council on the status of NOAA's activities related to the Bipartisan Infrastructure Law and Inflation Reduction Act habitat funding opportunities. Doug Cristel (also of HESD) provided an overview of recent offshore wind consultations and highlighted the socioeconomic impacts reports and other products being utilized to evaluate port specific fishery impacts from offshore wind development.

Offshore Wind Fisheries Compensation Programs

The Council discussed fisheries compensatory mitigation programs for offshore wind energy development. The discussion focused on the Vineyard Wind 1 commercial fisheries compensatory mitigation fund, as it is currently accepting applications with a deadline of June 3, 2024. To qualify for payments from this program, applicants must demonstrate that they fished in the Vineyard Wind 1 lease area in at least three years during 2016-2022 and must provide documentation of total annual revenue from commercial fishing activities (not just from within the Vineyard Wind 1 lease area) for the associated years. Several types of data can be used as evidence of fishing activity within the lease area, including, but not limited to, vessel trip reports, vessel monitoring system data, automatic identification system information, observer information, and other trip-level reporting. Fishermen may need to request some of this information from NOAA Fisheries. Concerns have been raised about the ability of NOAA Fisheries to respond to these data requests in a timely manner to ensure fishermen can apply by the June 3 deadline. However, Vineyard Wind has indicated that applications that are otherwise complete and submitted by June 3 will not be rejected due to outstanding data requests to NOAA Fisheries. More information on the qualification criteria, how to apply, and guidance for data requests can be found at: https://vw1fisheriescomp.com/.

Council members and members of the public expressed several concerns with this program, including that many fishermen who will be impacted by Vineyard Wind 1 are not eligible for compensation because they are not homeported in Massachusetts, Rhode Island, Connecticut, New York, or New Jersey. In addition, this program does not provide compensation for impacts to for-hire or private recreational fishing. The program also does not allow commercial fishing vessel crew to receive direct compensation. Only owner/operators are eligible. The funds do not account for impacts such as devaluation of permits and increased transit times once Vineyard Wind 1 is constructed. It was also noted that before receiving financial compensation, fishermen must sign a waiver stating they will not join future lawsuits against Vineyard Wind 1. The specific language in this waiver is only shared with fishermen after they have submitted applications for compensation. Stakeholders said this is problematic because some fishermen will not want to sign the waiver and they should be aware of that requirement before going through the time-consuming application process and submitting personal fishing and financial information. The Council recommended that Vineyard Wind or NOAA Fisheries do additional targeted outreach to ensure all potentially eligible fishermen are aware of the program, application process, and deadlines.

Impacts of Offshore Wind Energy Construction Sounds on Behavior of Longfin Squid and Black Sea Bass

The Council received a presentation from Dr. Aran Mooney and Nathan Formel with the Woods Hole Oceanographic Institution on multiple studies of the impacts of offshore wind construction sounds on longfin squid and black sea bass. These studies examined the impacts of recorded pile driving sounds from construction of the Block Island Wind Farm replayed in a laboratory setting as well as on the water studies of pile driving in an experimental setting in Woods Hole. The sound levels used in all these studies are less intense than those that will be produced during installation of the larger foundations planned for other offshore wind energy projects off the East Coast. However, similar studies have not been done during construction of these projects. Key findings presented for squid include strong initial alarm responses of resting squid, increased energy usage during alarm responses, and distraction from feeding, but sustained mating behaviors and no significant change in school area during noise. The researchers concluded that longfin squid are generally resilient to pile driving noise. Key findings presented for black sea bass include increased sheltering behavior of adults and reduced juvenile counts during pile driving. The researchers suggested there could be potential displacement and impacts to foraging behavior.

Proposed Rule to Update Regulations Associated with the Magnuson-Stevens Fishery Conservation and Management Act's Confidentiality Requirements

Laura Keeling, from NOAA Fisheries Office of Sustainable Fisheries, provided a briefing on a proposed rule that would modify the regulations governing the confidentiality of information submitted in compliance with requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA). Ms. Keeling noted that the proposed rule aims to streamline access for the fishing industry as well as Regional Fishery Management Councils, states, commissions, and other entities that need such information for fishery conservation and management purposes. It would bring implementing regulations into compliance with the Congressional amendments and address their application to some more recent issues. The rule would also prohibit unauthorized disclosure of confidential information, clarify exceptions to the MSA that allows for the release of confidential information, and provide a general framework for the handling of confidential information under the MSA. The final rule is expected to be published this summer, and internal control procedures will be developed to guide the implementation of the rule. Following the presentation, the Council agreed to submit comments on the proposed rule. Given the length and complexity of the rule, the Council also directed staff to develop a redline version showing the proposed changes to the existing regulatory text.

Next Meeting

The next Council meeting will be held **June 4-6, 2024, in Riverhead, NY.** A complete list of upcoming meetings can be found at https://www.mafmc.org/council-events.

Final Motions
New England Fishery Management Council Meeting
April 16-18, 2024
Hilton Mystic, Mystic, CT
Hybrid meeting with remote participants

Tuesday, April 16, 2024

NORTHERN EDGE REPORT

1. Ms. Griffin moved on behalf of the Habitat and Scallop Committees:
   that the Council move Concept Areas 1 (Full Area) and 3 (South of High Complexity Area) to considered but rejected in the Northern Edge Habitat/Scallop Framework.

   The motion ***carried*** by unanimous consent

2. Mr. Salerno moved and Mr. Smith seconded:
   to bring forth the Enforcement Committee consensus statement that does not support further development of Concept Area 1 and Concept Area 4 in the Northern Edge Framework due to enforceability concerns.

   The motion was ***withdrawn*** by its maker.

3. Mr. Salerno moved and Mr. Smith seconded:
   that the Council moves Concept Area 4 to considered but rejected in the Northern Edge Habitat/Scallop Framework.

   Roll Call:
   Yes: Mr. Bellavance, Ms. Patterson, Mr. Salerno, Ms. Ware, Mr. Olszewski, Mr. Pappalardo, Mr. Smith and Mr. Whelan
   No: Mr. Gates, Mr. Alexander, Ms. Odell, Mr. Hansen, Mr. Pentony, Mr. Pierdinock, Ms. Griffin and Mr. Tracy
   Abstain:

   The motion ***failed*** for lack of majority (8/8/0).

Wednesday, April 17, 2024

MONKFISH REPORT

1. Matt Gates moved and Mr. Alexander seconded:
   to adopt Alternative 5 as the preferred alternative with an exemption for DE/MD/VA bycatch polygons for the use of gillnet mesh less than 5.25-inches (e.g., In Delmarva, mesh < 5.25" could do overnight soaks year-round; mesh ≥ 5.25" could not do overnight soaks from November through March; in New Jersey, there would be an overnight soak prohibition in May and November).

The motion ***carried*** by unanimous consent.

2. Mr. Gates moved on behalf of the Committee:
to adopt Alternative 5 (year-round low-profile gear requirement in NJ bycatch hotspot polygon) as the preferred alternative.

   The motion ***carried*** by unanimous consent.

3. Mr. Gates moved on behalf of the Committee:
move to write a letter to NOAA NEFSC observer program to develop and implement a carcass tagging program for dead sturgeon discards similar to sea turtles and marine mammals as well as include a tagging program for live sturgeon discards. This would apply to any fishery where sturgeon are caught regardless of gear type, area, etc.

   The motion ***carried*** with one abstention, Mr. Pentony.

4. Mr. Gates moved and Mr. Bellavance seconded**:**
to submit this framework, with identification of the preferred alternatives, to NOAA Fisheries.

   The motion ***carried*** with one abstention, Mr. Pentony.

Thursday, April 18, 2024

GROUNDFISH COMMITTEE REPORT

Atlantic Cod Management Transition Plan

1. Mr. Bellavance moved on behalf of the Committee:
Consensus Statement 1: Recommend this initial approach for cod management transition:
Amendment (Phase 1):
   - Define stocks

   Annual Framework Adjustment (Phase 1):
   - Define stock status determination criteria
   - Develop options for how to prorate commercial catch limits from 4 new stocks to 2 current management units
   - Consider years to use for recreational/commercial split, and consider establishing new management units for the recreational fishery (WGOM, SNE, EGOM). Develop options for how to prorate recreational catch limits from new stocks to current management units, if needed.

   For Phase 2 (not to occur in Phase 1):

- Rebuilding plans
- Additional spawning protections
- Any changes to the qualifying time periods used in Amendment 16 for calculating PSCs

For Phase 2 (may occur in Phase 1):

- Determining management units

1a. Ms. Griffin moved to amend and Mr. Pappalardo seconded
Consensus Statement 1: Recommend this initial approach for cod management transition:
Amendment (Phase 1):

- Define stocks

Annual Framework Adjustment (Phase 1):

- Define stock status determination criteria
- Develop options for how to prorate commercial and recreational catch limits from 4 new stocks to 2 current management units

For Phase 2 (not to occur in Phase 1):

- Rebuilding plans
- Additional spawning protections
- Any changes to the qualifying time periods used in Amendment 16 for calculating PSCs
- Determining management units (commercial and recreational)
- Consider years to use for recreational/commercial split

The motion to amend ***carried*** with one abstention, Mr. Salerno.

1b. The main motion as amended:
Consensus Statement 1: Recommend this initial approach for cod management transition:
Amendment (Phase 1):

- Define stocks

Annual Framework Adjustment (Phase 1):

- Define stock status determination criteria
- Develop options for how to prorate commercial and recreational catch limits from 4 new stocks to 2 current management units

For Phase 2 (not to occur in Phase 1):

- Rebuilding plans
- Additional spawning protections

- Any changes to the qualifying time periods used in Amendment 16 for calculating PSCs
- Determining management units (commercial and recreational)
- Consider years to use for recreational/commercial split

The main motion as amended, ***carried*** by unanimous consent.

2. Mr. Bellavance moved on behalf of the Committee:
to recommend developing a narrowly focused Amendment to identify the four cod stocks consistent with the Research Track assessment as soon as possible. This action would not modify the current management units for cod.

2a. Mr. Bellavance moved to amend and Mr. Pappalardo seconded:
To recommend developing an Amendment to identify the four cod stocks consistent with the Research Track assessment as soon as possible. This action would not modify the current management units for cod.

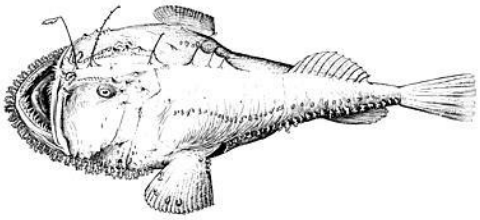
The motion to amend, ***carried*** by unanimous consent.

The main motion as amended:
to recommend developing an Amendment to identify the four cod stocks consistent with the Research Track assessment as soon as possible. This action would not modify the current management units for cod.

The main motion as amended, ***carried*** by unanimous consent.

Joint Framework Action to Reduce Sturgeon Bycatch in Monkfish and Spiny Dogfish Fisheries

Monkfish Framework Adjustment 15
Spiny Dogfish Framework Adjustment 6



Environmental Assessment

Draft (Version 2)

March 29, 2024

Prepared by the

New England Fishery Management Council and the

Mid-Atlantic Fishery Management Council

in consultation with the

National Marine Fisheries Service

Document history

Initial Meetings:	April 18, 2023 (NEFMC)
	June 7, 2023 (MAFMC)
Final Meetings Planned:	April 10, 2024 (MAFMC)
	April 17, 2024 (NEFMC)
Preliminary Submission:	May X, 2024
Final Submission:	X, 2024

Cover image

NOAA image

MONKFISH AND SPINY DOGFISH FISHERY MANAGEMENT PLANS

MONKFISH FRAMEWORK ADJUSTMENT 15

SPINY DOGFISH FRAMEWORK ADJUSTMENT 6

Proposed Action: Propose management measures to reduce sturgeon bycatch in the commercial monkfish and spiny dogfish fisheries to ensure compliance with the Endangered Species Act.

Responsible Agencies:

New England Fishery Management Council
50 Water Street, Mill #2
Newburyport, MA 01950

Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201
Dover, DE 19901

National Marine Fisheries Service
National Oceanic and Atmospheric Administration
U.S. Department of Commerce
Washington, D.C. 20235

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Phone: (302) 526-5255
Fax: (302) 674-5399

Abstract: The New England Fishery Management Council and the Mid-Atlantic Fishery Management Council, in consultation with NOAA Fisheries, have prepared Framework Adjustment 15 to the Monkfish Fishery Management Plan and Framework Adjustment 6 to the Spiny Dogfish Fishery Management Plan. This Environmental Assessment presents the range of alternatives to achieve the purpose and need of the action. The proposed action includes measures to reduce sturgeon bycatch in the commercial monkfish and spiny dogfish gillnet fisheries. This document describes the affected environment and valued ecosystem components and analyzes the impacts of the alternatives. This document also addresses other requirements of the National Environmental Policy Act, the Magnuson-Stevens Fishery Conservation and Management Act, the Regulatory Flexibility Act, and other applicable laws.

1.0 EXECUTIVE SUMMARY

The New England Fishery Management Council (NEFMC) and Mid-Atlantic Fishery Management Council (MAFMC) jointly manage the monkfish and spiny dogfish fisheries under the Monkfish and Spiny Dogfish Fishery Management Plans (FMPs), with the NEFMC having the administrative lead on monkfish and MAFMC having the administrative lead on spiny dogfish. The FMPs have been updated over time through a series of amendments, framework adjustments, and fishery specification actions. For amendments and frameworks (other than frameworks that set specifications) both Councils must approve any alternatives.

This action, Monkfish Framework Adjustment 15 (FW15) and Spiny Dogfish Framework Adjustment 6 (FW6), considers alternatives that would set management measures to reduce sturgeon bycatch in the commercial monkfish and spiny dogfish gillnet fisheries (Table 1). These measures are necessary to reduce the incidental take of endangered Atlantic sturgeon and ensure compliance with the Endangered Species Act (ESA).

Under the provisions of the MSA, Councils submit proposed management actions to the Secretary of Commerce for review. The Secretary of Commerce may approve, disapprove, or partially approve the action proposed.

This document describes a range of management alternatives (Section 4), the affected environment, which are defined as valued ecosystem components (VECs; Section 5), and the alternatives' expected impacts on the VECs (Section 6). The expected impacts of the alternatives on the VECs are derived from consideration of both the current conditions of the VECs and expected changes in fishing effort under each alternative.

Table 1. The four action alternatives are packages of time/area closures and/or gear restrictions for the federal monkfish and spiny dogfish fisheries. The time/area closures and gear restrictions would be implemented in both federal and state waters, however, the measures would only apply to vessels with a federal spiny dogfish or monkfish fishing permit. Methods and rationale for alternatives can be found in Section 4.0.

Monkfish	**Polygon[1]**	**Measure**	**Time**
Alternative 1	No Action		
Alternative 2	Southern New England	Closure	April 1 – May 31 &
			Dec. 1 – Dec. 31
	New Jersey	Closure	May 1 – May 31 &
			Oct. 15 – Dec. 31
		Low-profile gillnet gear	June 1 – Oct. 14 &
			Jan. 1 – April 30
Alternative 3	Southern New England	Closure	May 1 – May 31 &
			Dec. 1 – Dec. 31
	New Jersey	Closure	Dec. 1 – Dec. 31
		Low-profile gillnet gear	Jan. 1 – Nov. 30
Alternative 4	Southern New England	Closure	Dec. 1 – Dec. 31
	New Jersey	Closure	Nov. 1 – Nov. 30
		Low-profile gillnet gear	Dec. 1 – Dec. 31
Alternative 5	New Jersey	Low-profile gillnet gear	Year-round

Spiny Dogfish	Polygon[1]	Measure	Time
Alternative 1	No Action		
Alternative 2	New Jersey	Closure	May 1 – May 31 &
			Oct. 15 – Dec. 31
	DE / MD / VA	Closure	Nov. 1 – March 31
Alternative 3	New Jersey	Closure	Nov. 1 – Dec. 31
		Overnight soak prohibition	May 1 – May 31
	DE / MD / VA	Closure	Dec. 1 – Feb. 28
Alternative 4	New Jersey	Closure	Nov. 1 – Nov. 30
		Overnight soak prohibition	Dec. 1 – Dec. 31 &
			May 1 – May 31
	DE / MD / VA	Closure	Dec. 1 – Jan. 31
Alternative 5	New Jersey	Overnight soak prohibition	May 1 – May 31 &
			Nov. 1 – Nov. 30
	DE / MD / VA	Overnight soak prohibition	Nov. 1 – March 31
Sub-Alt. 5a	New Jersey	Vessels using less than 5 ¼ inch gillnet mesh would be exempted from soak prohibition in Alt. 5	
Sub-Alt. 5b	DE/MD/VA		

[1]Hotspot area polygons are mapped in sections 4.2 through 4.4.

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“	**inches**
ABC	**Acceptable Biological Catch**
ACL	**Annual Catch Limit**
ACT	**Annual catch target**
ASMFC	**Atlantic States Marine Fisheries Commission or Commission**
B	**Biomass**
BOEM	**Bureau of Offshore Energy Management**
CFR	**Code of Federal Regulations**
CV	**coefficient of variation**
DAH	**Domestic Annual Harvest**
DAP	**Domestic Annual Processing**
DAS	**Days at Sea**
EA	**Environmental Assessment**
EEZ	**Exclusive Economic Zone**
EFH	**Essential Fish Habitat**
EIS	**Environmental Impact Statement**
ESA	**Endangered Species Act of 1973**

F	**Fishing Mortality Rate**
FMP	**Fishery Management Plan**
FR	**Federal Register**
GB	**Georges Bank**
GOM	**Gulf of Maine**
M	**Natural Mortality Rate**
MAFMC	**Mid-Atlantic Fishery Management Council**
MMPA	**Marine Mammal Protection Act**
MSA	**Magnuson-Stevens Fishery Conservation and Management Act**
MSY	**Maximum Sustainable Yield**
MT (or mt)	**Metric Tons (1 mt equals about 2,204.62 pounds)**
MTA	**Management Track Assessment**
NE	**Northeast**
NEFMC	**New England Fishery Management Council**
NEFSC	**Northeast Fisheries Science Center**
NEPA	**National Environmental Policy Act**
NFMA	**Northern Fishery Management Area**
NMFS	**National Marine Fisheries Service (NOAA Fisheries)**
NOAA	**National Oceanic and Atmospheric Administration**
OFL	**Overfishing Level**
OY	**Optimum Yield**
PBR	**Potential Biological Removal**
RTA	**Research Track Assessment**
SFMA	**Southern Fishery Management Area**
SSC	**Scientific and Statistical Committee**
TAL	**Total allowable landings**
U.S.	**United States**
VTR	**Vessel Trip Report**

3.0 BACKGROUND AND PURPOSE

3.1 BACKGROUND

All five Atlantic sturgeon distinct population segments (DPS) in the United States are listed as endangered or threatened under the Endangered Species Act (ESA). The primary threats to these DPSs are entanglement in fishing gears, habitat degradation, habitat impediments, and vessel strikes.

On May 27, 2021, NOAA's National Marine Fisheries Service (NMFS) issued a Biological Opinion (Opinion) on the authorization of eight federal fishery management plans (FMPs), two Interstate Fishery Management Plans (ISFMPs) and the New England Fishery Management Council's Omnibus Essential Fish Habitat Amendment 2. The eight FMPs considered are the: Atlantic Bluefish; Atlantic Deep-sea Red Crab; Mackerel, Squid, and Butterfish; Monkfish; Northeast Multispecies; Northeast Skate Complex; Spiny Dogfish; and Summer Flounder, Scup, and Black Sea Bass FMPs. The Opinion evaluated the effects of the action on ESA-listed species, including all five DPS of Atlantic sturgeon, and designated critical habitat.

Section 9 of the ESA prohibits the take, including the incidental take, of endangered species. Pursuant to section 4(d) of the ESA, NMFS has issued regulations extending the prohibition of take, with exceptions, to certain threatened species. NMFS may grant exceptions to the take prohibitions with an incidental take statement (ITS) or an incidental take permit issued pursuant to ESA section 7 and 10, respectively. Take is defined as "to harass, harm, pursue, hunt, shoot, capture, or collect, or to attempt to engage in any such conduct."

The ESA defines incidental take as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of sections 7(b)(4) and 7(o)(2), incidental take is not considered to be prohibited under the ESA provided that it is in compliance with the terms and conditions of an ITS. The 2021 Opinion includes an ITS which specifies the level of incidental take of Atlantic sturgeon anticipated in the federal fisheries and defines reasonable and prudent measures (RPMs) and implementing terms and conditions (T&C), which are necessary or appropriate to minimize impacts of the incidental take. The RPMs and T&Cs are non-discretionary and must be undertaken in order for the exemption to the take prohibitions to apply.

The RPMs/T&Cs of the Opinion included that NMFS convene a working group to review all the available information on Atlantic sturgeon bycatch in the federal large mesh gillnet fisheries and develop an Action Plan by May 27, 2022, to reduce Atlantic sturgeon bycatch in these fisheries by 2024. Additionally, the Opinion requires that this Action Plan include an evaluation of information available on post-release mortality, identification of data needed to better assess impacts, and a plan, including timeframes, for obtaining and using this information to evaluate impacts.

The Opinion did not specify the extent of bycatch reduction that must occur as a result of this Action Plan. However, RPMs are those actions that are necessary or appropriate to minimize impacts (i.e. amount or extent) of incidental takes. As a result, measures must be developed that minimize impacts. However, ESA regulations specify that RPMs involve only a minor change and be consistent with the basic design, location, scope, duration, or timing of the action, which in this case is the typical operation of the relevant fisheries.

The Working Group conducted a review of available information regarding Atlantic sturgeon distribution, bycatch in gillnet gear, bycatch mitigation, and post-release mortality. From this review, the working group produced the Action Plan to Reduce Atlantic Sturgeon Bycatch in Federal Large Mesh Gillnet Fisheries, which recommended that the New England and Mid-Atlantic Fishery Management Councils

(Councils), in coordination with the National Marine Fisheries Service and the Atlantic States Marine Fisheries Commission, consider a range of potential measures to reduce Atlantic sturgeon bycatch in federal gillnet fisheries using large mesh gear, defined as greater than or equal to 7 inches. The Councils agreed to focus on spiny dogfish and monkfish because they are jointly managed, and the action plan identified these fisheries as two of the highest contributors to sturgeon bycatch in gillnet fisheries.

The Action Plan does not prescribe the measures that must be used, but provided recommendations based on the information available and considered on Atlantic sturgeon bycatch. These recommendations were: 1) Requirements to use bycatch mitigating low-profile gillnet gear; 2) reductions in soak time for gillnet gear; and 3) implementation of time/area measures, particularly gear restricted areas, in regions where Atlantic sturgeon bycatch is most common.

During the course of developing this action, the Councils were made aware that new estimates (Hocking 2023[1]) showed the bycatch of Atlantic sturgeon in gillnet gear exceeded the level exempted in the ITS of the 2021 Opinion. Due to the ITS exceedance, NMFS reinitiated consultation as required by the Endangered Species Act (ESA) on eight Federal Fishery Management Plans (FMPs) on September 13, 2023. It should be noted that the updates also changed the estimates used to develop the exempted take levels in the ITS (all new information will be considered during the next Biological Opinion development). Regardless, the intent is for the resulting bycatch reduction measures in the Councils' action to be considered during the re-initiated consultation process to the extent feasible. GARFO subsequently provided guidance on bycatch percentage reductions needed to return take levels to those authorized in the ITS (though again, the estimates used to develop the ITS have also changed).[2]

3.2 Purpose and Need

The purpose of this action is to implement management measures to reduce the bycatch of Atlantic sturgeon in the monkfish and spiny dogfish gillnet fisheries based on the best scientific information available. This action is needed to reduce incidental takes per the Action Plan developed after the 2021 Biological Opinion to allow for the continued authorization of the fisheries in compliance with the Endangered Species Act (Table 2).

The range of alternatives described in this document is based on the types of alternatives the NEFMC and MAFMC approved during their September/October 2023 meetings, respectively. The FMAT/PDT then provided input on several packages of alternatives that the Councils endorsed at their January/February 2024 meetings for consideration via this document.

Table 2. Purpose and need for Monkfish Framework Adjustment 15 and Spiny Dogfish Framework Adjustment 6.

Need for Monkfish Framework 15, Spiny Dogfish Framework 6	Corresponding Purpose for Monkfish Framework 15, Spiny Dogfish Framework 6
To address the 2021 Biological Opinion reasonable and prudent measures to allow for the continued authorization of the monkfish and spiny dogfish fisheries in compliance with the Endangered Species Act.	Specify measures that would reduce the incidental take of endangered Atlantic sturgeon in the federal monkfish and spiny dogfish fisheries.

[1] Available at: https://mafmc.squarespace.com/s/sturgeon_report_state_fed.pdf

[2] See "Take Reduction Recommendations for Atlantic Sturgeon in Federal Gillnet Fisheries, GARFO Protected Resources Division to Sturgeon Bycatch FMAT/PDT; transmitted 12/04/2023" available at https://www.mafmc.org/s/Sturgeon-Update-Dec-2023.pdf

4.0 ALTERNATIVES UNDER CONSIDERATION

The Councils considered the alternatives in this section. Alternatives considered but rejected are briefly described in Section 4.6. The four action alternatives are packages of time/area closures and/or gear restrictions for the federal monkfish and spiny dogfish fisheries. These alternatives are designed to represent a robust range of measures:

Alternative 1: No action.

Alternative 2: Higher impacts; time/area closures and gear restriction measures.

Alternative 3: Intermediate impacts; time/area closures and gear restriction measures.

Alternative 4: Lower impacts; time/area closures and gear restriction measures.

Alternative 5: Only gear restriction measures.

The Councils may select any one of these alternatives, modify them, or create a hybrid option leading up to final action (e.g., a combination of multiple alternatives). The alternatives were constructed as packages to allow for meaningful analyses of the impacts of the measures that might be implemented. Considering every possible combination would have resulted in tens of thousands of permutations that would have been impossible to analyze in a meaningful and timely manner. All packages cover multiple sturgeon take hotspots so that benefits to sturgeon and impacts to the fisheries are spread geographically across the various areas of higher sturgeon takes.

The time/area closures and gear restrictions would be implemented in both federal and state waters, however, the measures would only apply to vessels with a federal spiny dogfish or monkfish fishing permit. The Atlantic States Marine Fisheries Commission (ASMFC) is expected to consider complementary action to reduce sturgeon interactions by state vessels in state waters.

Methods for determining the sturgeon bycatch polygons where time/area closures and gear restrictions would apply

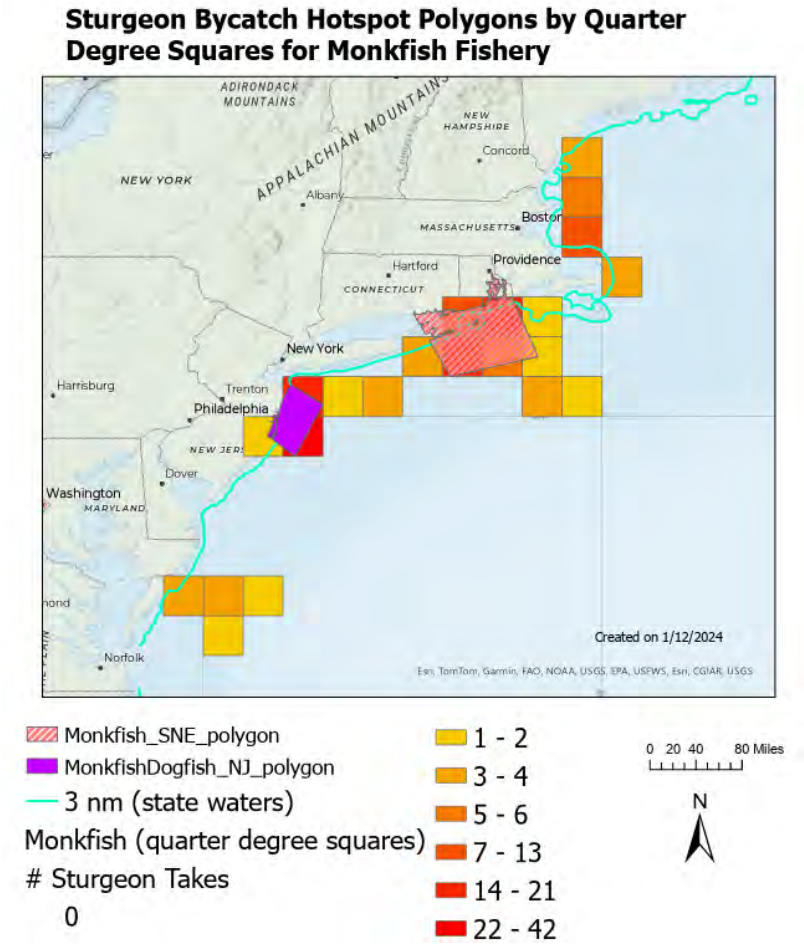
To map sturgeon take hotspots, sturgeon takes summed across 2017-2019 and 2021-2022 were quantified by 10-minute squares and shaded accordingly. Given these 10-minute squares represent confidential data, only quarter degree squares with shading are included in Figure 1 and Figure 2. The Councils were primarily interested in encompassing the bycatch hotspots with a 1-mile buffer approximately based on straight lines parallel to shore (estimating 6-9 miles offshore).

- Orange and red squares represent areas with higher takes, and groupings of these darker squares were considered hotspots. The edges of hotspots often appeared as yellow ten-minute squares.
- Boundaries of the polygons were drawn using the following criteria: If the outer-most edge of a hotspot cluster is an orange or red ten-minute square, the boundary line extends approximately one mile beyond the edge of the square. This allows for some buffer to address the potential for shifting effort. If the outer edge is a yellow ten-minute square, the boundary line is drawn at least approximately one mile out from the point where a take occurred in that yellow square. This was because yellow squares represented fewer takes and were often already on the edge of a hotspot rather than within a hotspot. Note that there are some instances where the boundary line is larger than 1 mile given the initial criteria to draw boundaries from the edges of the red and orange ten-minute squares.
- The western area boundaries were clipped to the shore for all hotspot locations to prevent shifting effort into shallower state waters where there will likely be sturgeon present. Note, this Council action only applies to vessels with a federal fishing permit targeting monkfish and spiny dogfish

in federal and state waters; ASMFC is expected to take complementary action for state only vessels fishing in state waters.

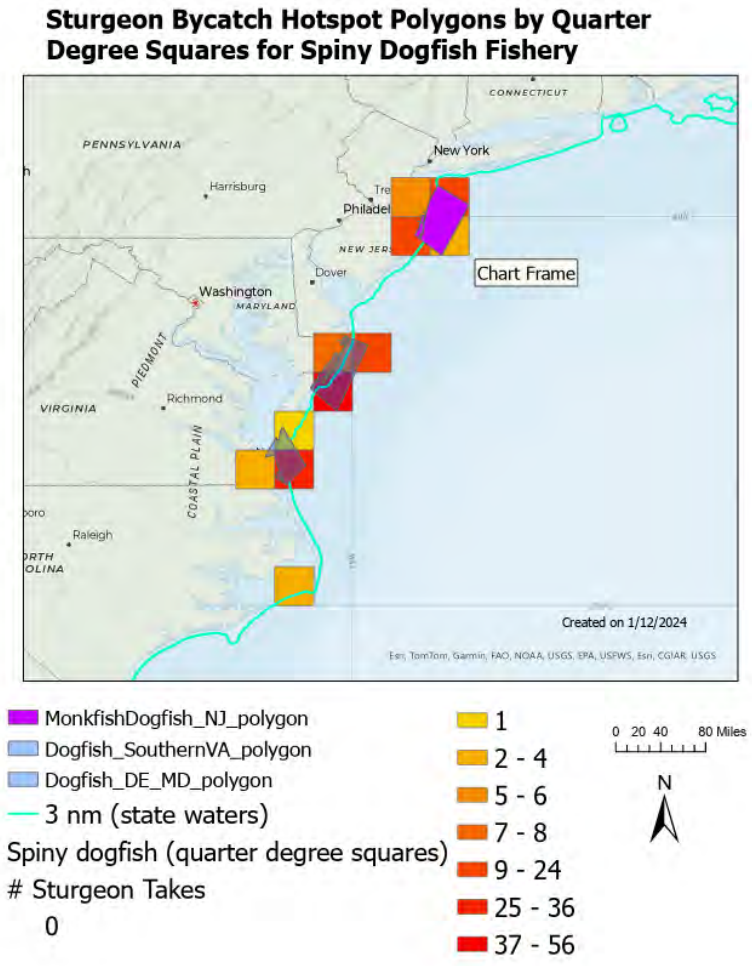
- The offshore portion of the polygon latitude and longitude values were then rounded to either the nearest 0.05 or 0.1 to help improve implementation of measures and enforcement.

Figure 1. Sturgeon bycatch hotspots in the monkfish fishery; shown as quarter degree squares due to data confidentiality.



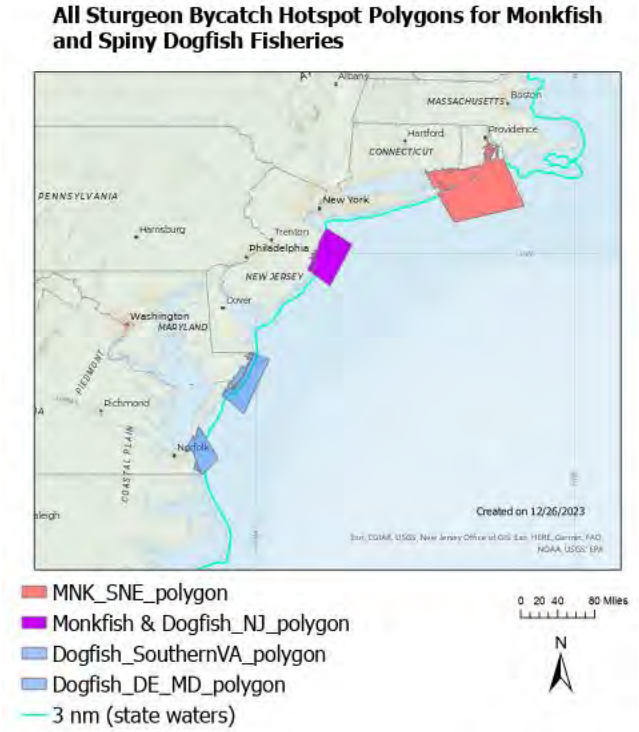
Data source: 2017-2019 and 2021-2022 observer data.

Figure 2. Sturgeon bycatch hotspots in the spiny dogfish fishery; shown as quarter degree squares due to data confidentiality.



Data source: 2017-2019 and 2021-2022 observer data.

Figure 3. All sturgeon bycatch hotspot polygons for the monkfish and spiny dogfish fisheries.



For monkfish gear measures, a January 1, 2026 implementation date is used, based on input from industry about the time needed to procure new gear with the required specifications. This delay would also allow for the Habor Porpoise Take Reduction Team to consider changes to minimum twine size requirements in the harbor porpoise regulations to potentially allow for an exemption for the low-profile gillnet gear which would use 0.81 mm versus 0.90 mm that is currently required for large-mesh gillnets (≥7") in the Harbor Porpoise regulations during applicable months (January-April).

Note: observed sturgeon interactions were based on:

- Hauls where monkfish and spiny dogfish are caught and recorded by the observer as either TARG1 or TARG2 species for gillnet trips. Monkfish and skate are caught on the same trip so it is important to include records where monkfish is not listed as the TARG1 species, for example. This is consistent with what was done in the Sturgeon Action Plan.
- Only records that denote 'spiny dogfish' as target species and exclude records for 'smooth dogfish' and 'unknown' records. Spiny dogfish is the only dogfish species managed by the MAFMC.
- Data subset by mesh size groups: 1) <5" (" = inches for measurements hereafter), 2) ≥ 5" - < 7", and 3) ≥ 7" based on how the spiny dogfish and monkfish fisheries operate. Note: there were no recorded takes in mesh size <5", so the mesh size groups hereafter are: ≥ 5" - < 7" and ≥ 7".
- Data from 2017-2019 and 2021-2022 were included to evaluate the most recent five years of observer data to adequately account for interannual variability, exclude 2020 when observer coverage was very low due to the global pandemic, and to help be consistent with the new Biological Opinion which is likely to use the same set of years.
- Data source: unpublished observer data and CAMS trip data from 2017, 2018, 2019, 2021, 2022.

There were **175** observed sturgeon takes in the **monkfish fishery** and *180* observed sturgeon takes in the *spiny dogfish fishery*, based on the previously described methodology and fishery definitions. In the

alternative rationales below, the percent of observed sturgeon takes in a given month and polygon are based on the number of observed sturgeon takes in just the relevant fishery. For example, there were 6 observed sturgeon takes in the **monkfish** fishery in the SNE polygon in April, which represents 3% of total observed takes in the **monkfish fishery** (6 out of **175** total observed takes in the monkfish fishery).

Note: Low-profile gillnet gear mentioned below is defined based on research by Fox et al. (2012 and 2019) and He and Jones (2013) in New Jersey:

- Mesh size ranging from 12 to 13 inches,
- Net height ranging from 6 to 8 meshes tall,
- Net length of 300 feet,
- Tie-down length of at least 24 inches to 48 inches max[3],
- Tie-down spacing of 12 feet,
- Primary hanging ratio of 0.50,
- Twine size 0.81mm, and
- Net is tied at every float to keep float line down.

General Observer Coverage in Relevant Areas

The statistical areas that are most relevant for the polygons include 539, 537, 613, 612, 615, 614, 621, 625, and 631. For each statistical area, the number of commercial trips and the number of observed trips from [2017, 2018, 2019, 2021, 2022 (not 2020)] were tallied and compared. For spiny dogfish, commercial trips were tallied based on if spiny dogfish made up at least 40% of the landed weight. Monkfish commercial trip counts were based on landing monkfish and using ≥10" mesh. Tallies of observed trips were based on species targeted (target species 1 or 2 indicated as the relevant species). Trip counts and coverage levels for statistical areas near relevant polygons are provided for each fishery in Table 3 and Table 4.

Table 3. Spiny Dogfish Observer Coverage Summary.

Statistical Area	Polygon Proximity	Spiny Dogfish Commercial Trips	Spiny Dogfish Observed Trips	Percent Observer Coverage
612	NJ	591	61	10%
615	NJ	369	72	20%
614	NJ	626	105	17%
621	MD/VA	827	102	12%
625	MD/VA	1232	79	6%
631	MD/VA	2633	308	12%

*Data source: unpublished observer data and CAMS trip data from 2017, 2018, 2019, 2021, 2022; accessed January 2024***.**

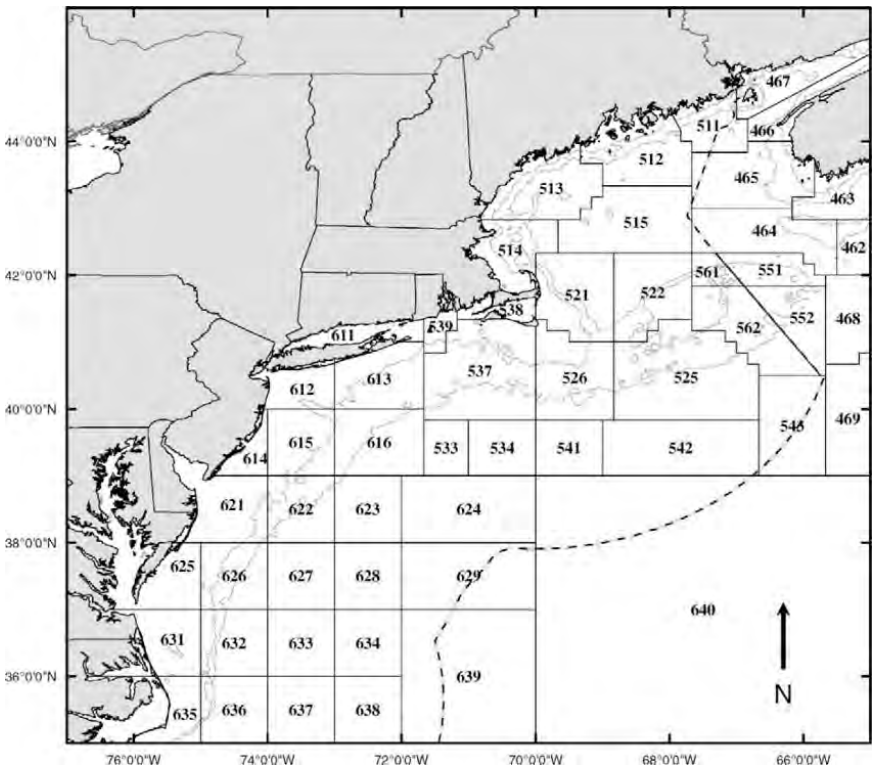
[3] The Harbor Porpoise regulations specify a 48" maximum tie-down length during the specified months; the FMAT wanted to accommodate these regulations and also enable ongoing/future research on testing low-profile gear with different tie-down lengths.

Table 4. Monkfish Observer Coverage Summary.

Statistical Area	Polygon Proximity	Monkfish Commercial Trips	Monkfish Observed Trips	Percent Observer Coverage
539	SNE	882	92	10%
537	SNE	3439	441	13%
613	SNE	2316	260	11%
612	NJ	772	86	11%
615	NJ	1229	136	11%

Data source: unpublished observer data and CAMS trip data from 2017, 2018, 2019, 2021, 2022; accessed January 2024.

Figure 4. NMFS Statistical Areas.



4.1 ALTERNATIVE 1 - NO ACTION

Under Alternative 1 (No Action), the current federal measures for the monkfish and spiny dogfish gillnet fisheries would remain – new measures to reduce sturgeon bycatch would not be implemented in 2024 through Council action. This alternative would not follow the sturgeon action plan's recommendation for developing measures to reduce sturgeon bycatch. The action plan laid out two possible paths to achieve a reduction in sturgeon bycatch by 2024. The recommended path was through action by the MAFMC and

the NEFMC. Selection of Alternative 1 (No Action) by the Councils may mean that NMFS takes action via a second path, under ESA rule-making processes.

4.2 Alternative 2 – High Impact Sturgeon Package (Most Time/Area Closures and Gear Restrictions)

Under Alternative 2, there would be a broad array of time/area closures and gear restrictions for both the federal monkfish and spiny dogfish gillnet fisheries in the Atlantic sturgeon bycatch hotspot areas (Figure 5, Figure 6, Figure 7).

The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) using ≥10" mesh size and vessels with federal spiny dogfish permits using gillnet gear with mesh size of 5 - <10". Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon to be implemented on January 1, 2026.

The polygons where the closures and gear restrictions would apply are the same for both the monkfish and spiny dogfish fisheries off New Jersey to help simplify the measures and to acknowledge that sturgeon are caught in this area by both fisheries. There are two Delaware/Maryland/Virginia bycatch polygons because of the two concentrations of observed sturgeon takes. The observed sturgeon takes occurred during similar times of the year, thus, the same closure and gear restriction measures would be the same across both polygons.

More specifically, Alternative 2 includes the following time/area closures and gear restrictions:

<u>Vessels with a federal fishing permit targeting monkfish in federal and/or state waters</u>

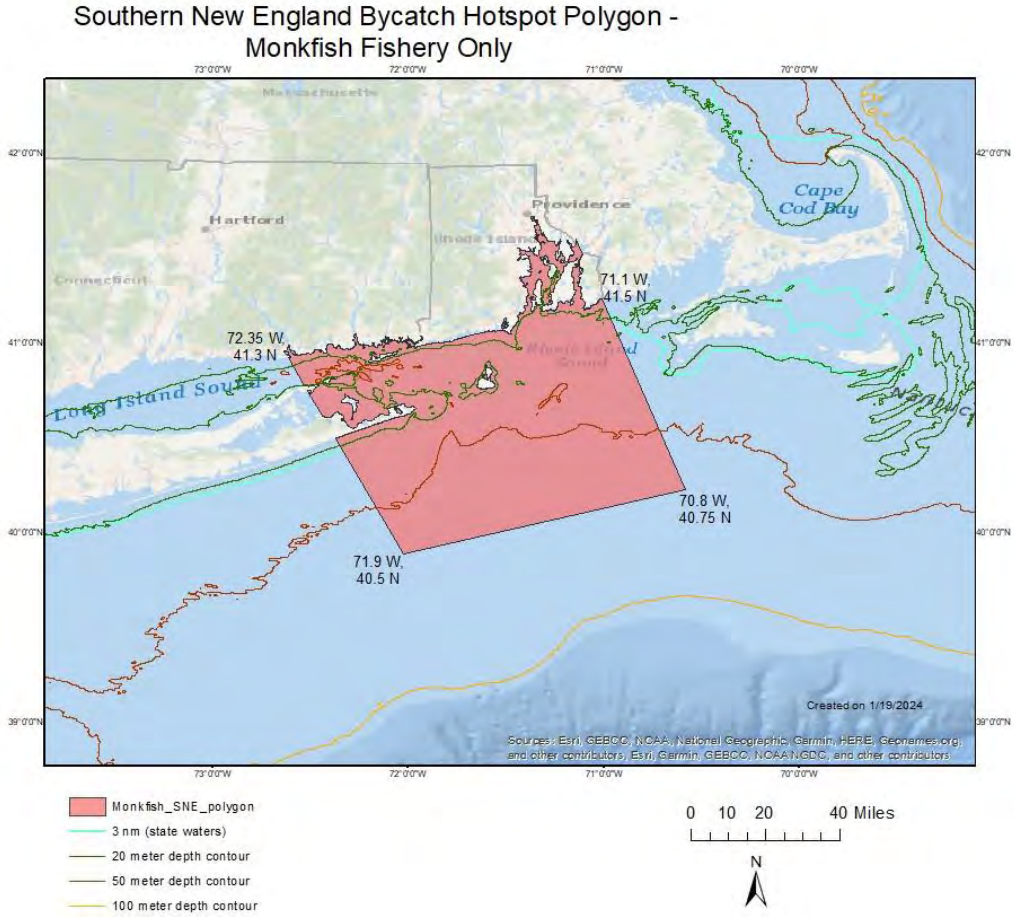
- Closure in Southern New England (SNE) bycatch hotspot polygon (Figure 5) during **April 1 – May 31**, and **December 1 – December 31.**
- Closure in New Jersey bycatch hotspot polygon (Figure 6) during **May 1 – May 31,** and **October 15 – December 31.**
- Low-profile gillnet gear requirement in New Jersey bycatch hotspot polygon (Figure 6) in the rest of year when above polygon closure is not in effect (**June 1 – October 14 and January 1 – April 30**).

<u>Vessels with a federal fishing permit targeting spiny dogfish in federal and/or state waters</u>

- Closure in New Jersey bycatch hotspot polygon (Figure 6) during **May 1 – May 31** and **October 15 – December 31**.
- Closure in the Delaware/Maryland/Virginia bycatch hotspot polygons (Figure 7) during **November 1 – March 31.**

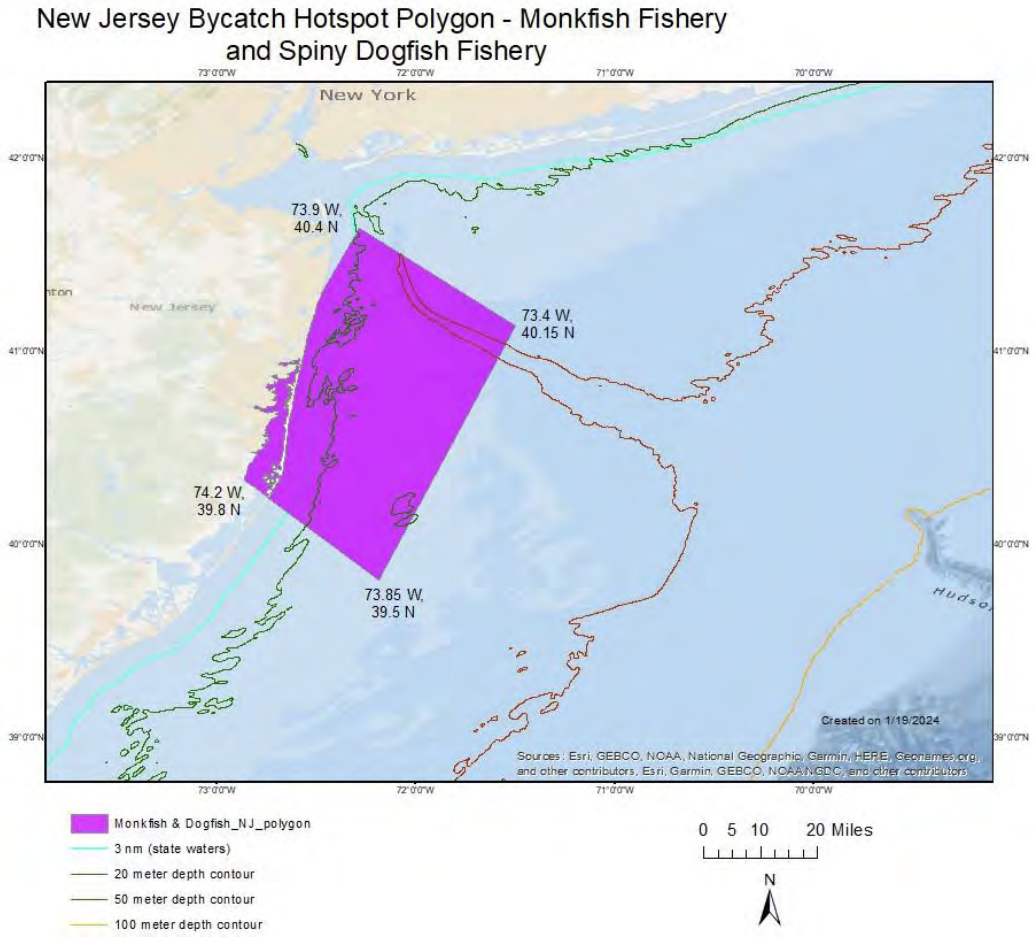
These time/area closures and gear restrictions would be implemented in both federal and state waters, however, the measures would only apply to vessels with a federal fishing permit. The Atlantic States Marine Fisheries Commission (ASMFC) is expected to take complementary action to reduce sturgeon interactions by state vessels in state waters.

Figure 5. Southern New England sturgeon polygon applicable only to the federal monkfish fishery.



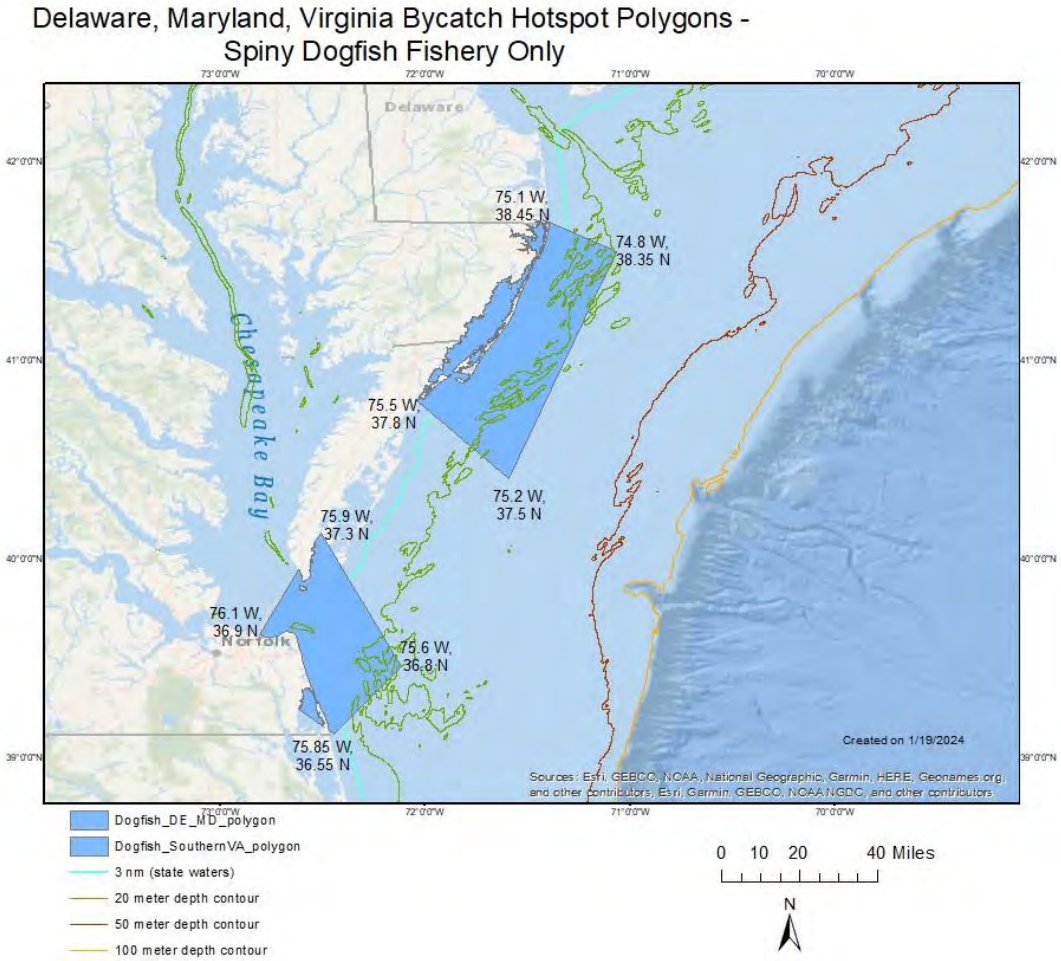
Note: The same figures are repeated in each action alternative, so the reader does not have to search for figures in other parts of the document. Accordingly, Figure 5, Figure 8, and Figure 11 are identical.

Figure 6. New Jersey sturgeon polygon applicable to both the federal monkfish and spiny dogfish fisheries.



Note: The same figures are repeated in each action alternative, so the reader does not have to search for figures in other parts of the document. Accordingly, Figure 6, Figure 9, and Figure 12 are identical.

Figure 7. Delaware/Maryland/Virginia sturgeon polygon applicable to only the federal spiny dogfish fishery.



Rationale for specific time/area closures: The time-area closures would likely reduce overall gillnet fishing, thus eliminating some interactions with Atlantic sturgeon (and mortality) by federal fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and spiny dogfish using gillnet gear in federal and state waters. These hotspot area polygons and times in which measures would apply are based on observer data indicating when and where observed sturgeon takes occurred most frequently from 2017-2019 and 2021-2022. If effort shifts to areas with less sturgeon, that would reduce both number of sturgeon takes and sturgeon mortality. This high impact Alternative would have the most beneficial impacts for sturgeon and facilitates comparing a range of alternatives.

Rationale for specific timing of measures are included as follows for observed gillnet takes on trips targeting monkfish and spiny dogfish from 2017-2019 and 2021-2022. There were 355 observed sturgeon takes for gillnet trips targeting monkfish and spiny dogfish, 175 from the monkfish fishery and 180 from the spiny dogfish fishery. See Section 4.0 for how sturgeon interactions were determined.

- Southern New England monkfish fishery
    - April had 6 observed sturgeon takes in the SNE polygon, representing ~3% of total observed gillnet takes on trips targeting monkfish from 2017-2019 and 2021-2022. The greatest number of sturgeon caught on a single observed haul in the SNE polygon was 2.
    - May had 31 observed sturgeon takes in the SNE polygon, representing ~18% of total observed gillnet takes on trips targeting monkfish. The greatest number of sturgeon caught on a single observed haul in the SNE polygon was 3.
    - December had 33 observed sturgeon takes in the SNE polygon, representing ~19% of total observed gillnet takes on trips targeting monkfish. The greatest number of sturgeon caught on a single observed haul in the SNE polygon was 3.
- New Jersey monkfish fishery
    - May had 23 observed takes in the NJ polygon, representing ~13% of total observed takes on trips targeting monkfish from 2017-2019 and 2021-2022. Note that there is a closure from the Harbor Porpoise Take Reduction Plan[4]; April 1 – 20 is closed to large mesh 7" + gillnet closure in the Waters off New Jersey management area which overlaps the NJ polygon. Initial feedback from OLE is this 10-day opening between closures does not pose an enforcement issue.
    - October 15 – December 31 had 29 observed sturgeon takes in the New Jersey polygon, representing ~17% of total observed gillnet takes on trips targeting monkfish. The greatest number of sturgeon caught on a single observed haul in the NJ polygon was 3.
        - This time period is conservative for the monkfish fishery given all of the observed takes occurred in December, however, there was a desire to have the time period for the New Jersey polygon to be the same for the monkfish and spiny dogfish fisheries.
- New Jersey spiny dogfish fishery
    - May had 12 observed sturgeon takes in the NJ polygon, representing ~7% of total observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single observed haul in the NJ polygon was 5.
    - October 15 – December 31 had 33 observed takes in the New Jersey polygon, representing ~18% of total observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single observed haul in the NJ polygon was 2.
- Delaware/Maryland/Virginia spiny dogfish fishery
    - Across both Mid-Atlantic polygons, November through March had 107 observed takes, representing ~59% of total observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single observed haul in these two Mid-Atlantic polygons was 9.

Rationale for gear restriction measures:

- Low-profile gillnet gear in the monkfish fishery: Low-profile gillnet gear in the monkfish fishery has been shown to reduce sturgeon bycatch in the New Jersey region based on various studies. More specifically, in the Fox, et al. 2019 study, sturgeon bycatch was reduced by ~76% (by a ratio of 4.2 to 1) when using the experimental low-profile gillnet gear in the New Jersey region. The authors emphasize that the results are highly uncertain, however. It is also worth noting that this study also evaluated monkfish catch rates with the experimental low-profile gillnet gear and found that vessels fishing off New Jersey had no significant difference in monkfish catch rates,

[4] Harbor Porpoise Take Reduction Plan information and a map of the New Jersey April 1-20 large mesh closure can be found here: https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-mammal-protection/harbor-porpoise-take-reduction-plan.

however, vessels fishing off New York caught significantly fewer monkfish. This is the reason why use of low-profile gillnet gear is only being proposed for use by the monkfish fishery in the New Jersey bycatch hotspot polygons and not other regions and not in the spiny dogfish fishery until further research is done.

- In the Fox et al., 2011 study, the researchers tested the influence of tie-downs on sturgeon bycatch using gillnets of standard height (12 meshes high) and found no significant differences in sturgeon bycatch but did find significantly lower target species catches in the gear configuration without tie downs. In the follow-up 2012 study, the researchers tested a low-profile gear configuration with the same tie-down configuration and net height 6 meshes high and found significantly lower sturgeon bycatch in the low-profile nets and lower (though not significant) target species landings (monkfish and winter skate). In their subsequent 2013 study where net height increased from 6 to 8 meshes, the researchers found lower (but not significant) sturgeon bycatch in the low-profile net and similar (not significant) rates of target species landings. Lastly, in the 2019 Fox et al study where mesh size was increased from 12 to 13 inches and twine size decreased from 0.90 to 0.81mm, the researchers found the low-profile net reduced sturgeon bycatch by a ratio of 4.2 to 1. The lighter twine is intended to reduce retention of larger sturgeon while the larger mesh size allows smaller sturgeon to escape. Results for target species catches were mixed, with the vessel fishing off New York catching significantly fewer monkfish with the low-profile net, while there was no significant difference between monkfish catch by the vessel fishing off New Jersey. The New York based vessel overall had higher monkfish catch rates and longer soak durations, both of which may have contributed to the difference in monkfish catch rates between the experimental low-profile net and the control net. The vessel fishing off New Jersey had more modest monkfish catch rates overall and shorter soak durations (mean soak time of 32.1 hours vs 48 hours for the New York vessel), which may have better optimized the effectiveness of the experimental low-profile net and thus the difference in monkfish catch between the experimental and standard nets was not significant. Catches of winter skate were not significantly different for either vessel. In the He and Jones (2013) study, researchers tested the low-profile net design from the Fox et al 2013 study off Virginia and Maryland and found sturgeon bycatch was significantly reduced with the low-profile net, though only seven sturgeon were caught in total. Results for target species catches were mixed, with one vessel having no significant difference in monkfish catch while the other vessel had significantly lower monkfish catch with the low-profile net particularly when catch rates are high. There were no significant differences in winter skate catch. All studies had relatively low sample sizes and results are considered uncertain. Table 5 summarizes the gear studies described above.

- Requirement of low-profile gear would be delayed until January 1, 2026 to allow sufficient time for gear manufacturers to produce this gear for the commercial monkfish vessels. The delay will also allow additional time for the Harbor Porpoise Take Reduction Team to consider changes to minimum twine size requirements in the harbor porpoise regulations to potentially allow for an exemption for the low-profile gillnet gear which would use 0.81 mm versus 0.90 mm that is currently required for large-mesh gillnets (≥7") in the Harbor Porpoise regulations during applicable months (January-April).

Table 5. Gillnet configurations used and sturgeon bycatch and target species catch results in Fox et al 2011, 2012, 2013, and 2019.

Fox et al 2011

	Mesh Size (in.)	Net Height (# Mesh)	Tie Down Length (ft)	Tie Down Spacing (ft)	Hanging Ratio	Net Length (ft)	Twine Diameter (mm)	Sturgeon Catch (# individuals)		Target Species Landings (kg)		
Control	12	12	4	24	0.5	300	0.90	18	Not significantly different	Monkfish 7,306.3	Winter skate 10,048.5	Experimental nets (no tie-downs) significantly reduced catch rates
Experimental	12	12	N/A	N/A	0.5	300	0.90	5		Monkfish 3,737.9	Winter skate 1,782.3	
Fox et al 2012												
Control	12	12	4	24	0.5	300	0.90	28	Significantly lower in low-profile nets	Monkfish 4,345	Winter skate 11,921	No significant differences, though overall catch rates lower with low-profile nets
Experimental	12	6	2	12	0.5	300	0.90	9		Monkfish 3,341	Winter skate 9,734	
Fox et al 2013												
Control	12	12	4	24	0.5	300	0.90	21	Not significantly different	Monkfish 2,615.5	Winter skate 2,417.6	Similar catch rates, not significantly different
Experimental	12	8	2	12	0.5	300	0.90	14		Monkfish 2,388.7	Winter skate 2,103.2	
Fox et al 2019												
Control	12	12	4	24	0.5	300	0.90	25	Significantly lower in low-profile nets	Monkfish * 32,333	Winter skate* 35,010	Monkfish catch significantly lower with low-profile nets for NY, no sig. differences for NJ; no sig. differences in winter skate catch for either
Experimental	13	8	2	12	0.5	300	0.81	6				

* Monkfish and winter skate landings were not differentiated between the control and experimental gillnet configurations so only total is included.

4.3 ALTERNATIVE 3 – INTERMEDIATE IMPACT STURGEON PACKAGE

Under Alternative 3, a subset of the time/area closures and gear restrictions under consideration in Alternative 2 for both the federal monkfish and spiny dogfish gillnet fisheries would be implemented in the Atlantic sturgeon bycatch hotspot areas (Figure 5, Figure 6, Figure 7). This alternative is the intermediate alternative under consideration in terms of impacts. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) using ≥10" mesh size and vessels with federal spiny dogfish permits using gillnet gear with mesh size of 5 - <10". Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon to be implemented on January 1, 2026. Additionally, an overnight soak time prohibition from 8pm until 5am (sunrise in Point Pleasant NJ on May 15 is 5:40am) is included for federal vessels targeting spiny dogfish in the New Jersey hotspot polygon in May. The polygons where the closures and gear restrictions would apply are the same for both the monkfish and spiny dogfish fisheries off New Jersey to help simplify the measures and to acknowledge that sturgeon are caught in this area by both fisheries. There are two Delaware/Maryland/Virginia bycatch polygons because of the two concentrations of observed sturgeon takes. The observed sturgeon takes occurred during similar times of the year, thus, the same closure and gear restriction measures would be the same across both polygons.

More specifically, Alternative 3 (Intermediate Package) includes the following time/area closures and gear restrictions:

<u>Vessels with a federal fishing permit targeting monkfish in federal and/or state waters</u>

- Closure in Southern New England (SNE) bycatch hotspot polygon (Figure 8) during **May 1 – May 31** and **December 1 – December 31**, two months with the highest observed sturgeon takes.
- Closure in New Jersey bycatch hotspot polygon (Figure 9) during **December 1 – December 31**, the month with the highest observed sturgeon takes.
- Low-profile gillnet gear requirement in New Jersey bycatch hotspot polygon (Figure 9) in the rest of year when above polygon closure not in effect (**January 1 – November 30**).

<u>Vessels with a federal fishing permit targeting spiny dogfish in federal and/or state waters</u>

- Closure in the New Jersey bycatch hotspot polygon (Figure 9) during **November 1 – December 31**, two months with the highest observed sturgeon takes.
- Overnight soak time prohibition from 8pm until 5am in New Jersey bycatch hotspot polygon (Figure 9) during **May 1 – May 31.**
- Closure in the Delaware/Maryland/Virginia bycatch hotspot polygons (Figure 10) during **December 1 – February 28**, three consecutive months with the highest observed sturgeon takes.

Note, time/area closures and gear restrictions would be implemented in both federal and state waters, however, the measures would only apply to vessels with a federal fishing permit. Atlantic States Marine Fisheries Commission (ASMFC) is expected to take complementary action to reduce sturgeon interactions by state vessels in state waters.

Figure 8. Southern New England sturgeon polygon applicable only to the federal monkfish fishery.

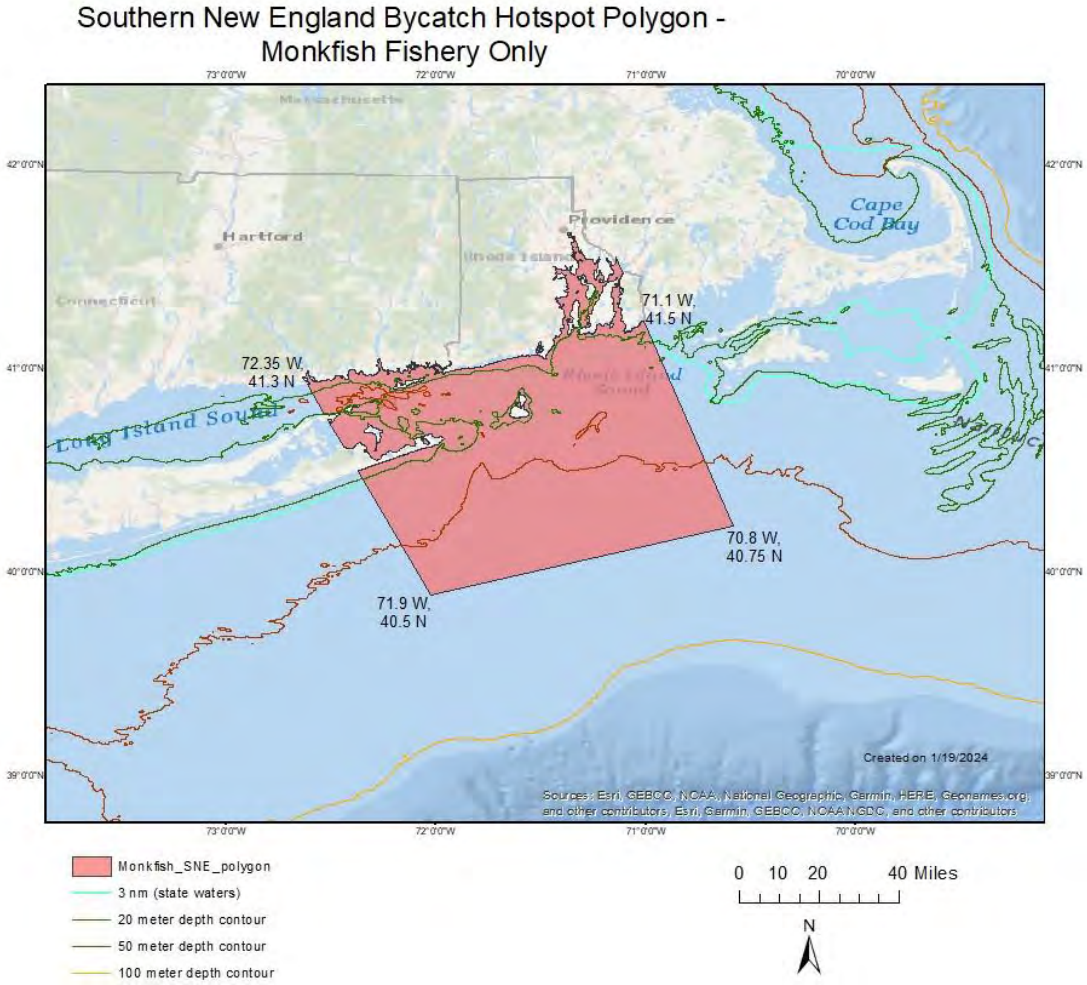


Figure 9. New Jersey sturgeon polygon applicable to both the federal monkfish and spiny dogfish fisheries.

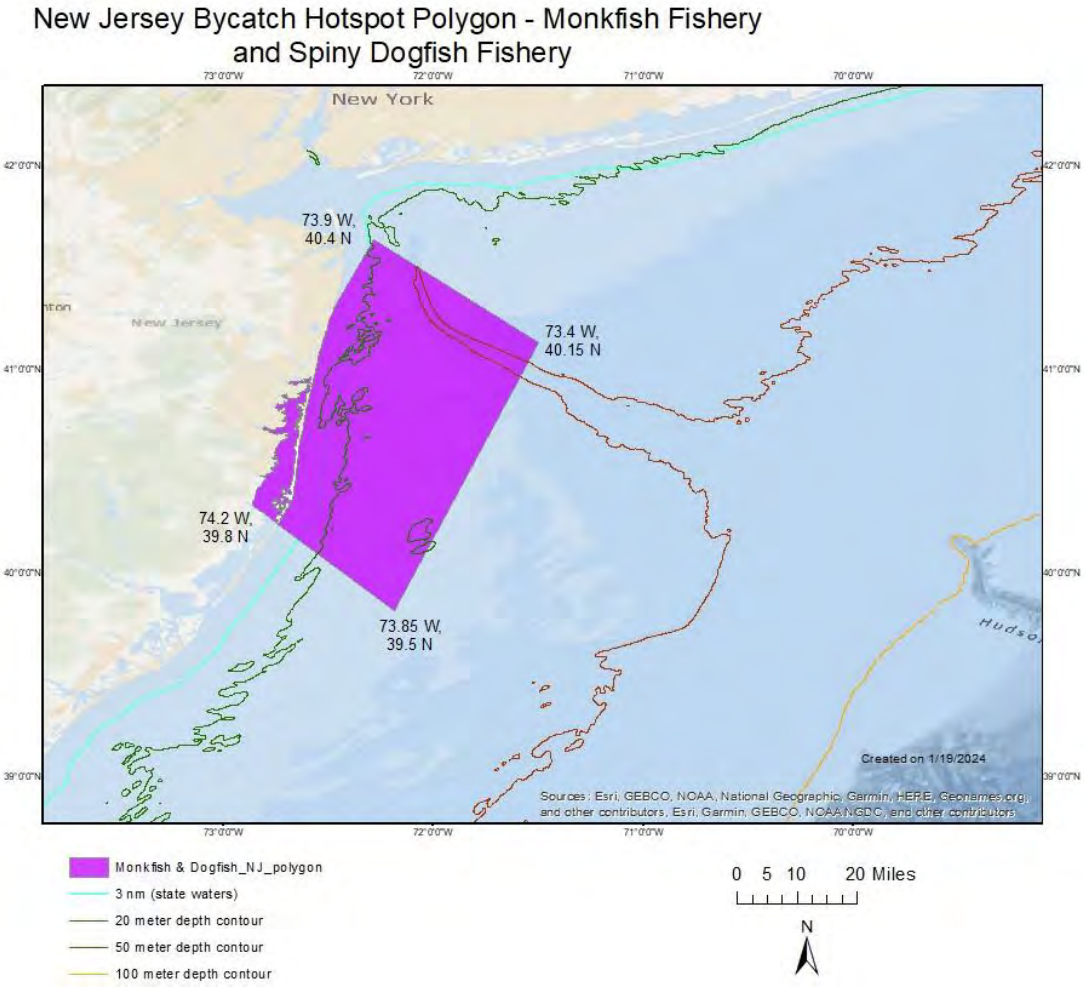
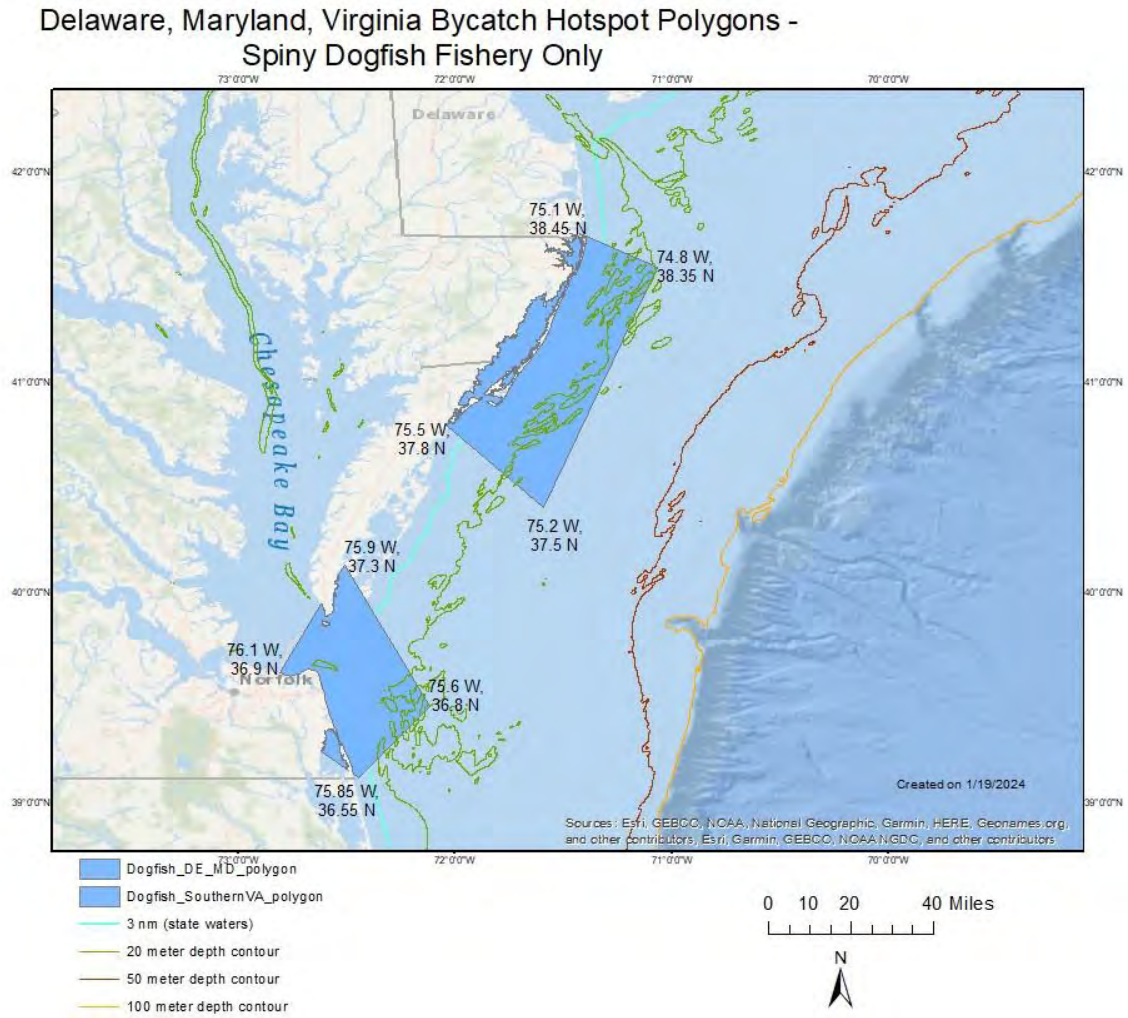


Figure 10. Delaware/Maryland/Virginia sturgeon polygon applicable to only the federal spiny dogfish fishery.



Rationale for specific time/area closures: The time-area closures would likely reduce overall gillnet fishing, thus eliminating some interactions with Atlantic sturgeon (and mortality) by federal fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and spiny dogfish using gillnet gear in federal and state waters. These hotspot area polygons and times in which measures would apply are based on observer data indicating when and where observed sturgeon takes occurred most frequently from 2017-2019 and 2021-2022. If effort shifts to areas with less sturgeon, that would also reduce takes/mortality. This intermediate impact Alternative would have intermediate beneficial impacts for sturgeon and facilitates comparing a range of alternatives.

Rationale for specific timing of measures are included as follows for observed gillnet takes on trips targeting monkfish and spiny dogfish from 2017-2019 and 2021-2022. There were 355 observed sturgeon takes for gillnet trips targeting monkfish and spiny dogfish, 175 from the monkfish fishery and 180 from the spiny dogfish fishery. See Section 4.0 for how sturgeon interactions were determined.

- Southern New England monkfish fishery
    - May had 31 sturgeon takes in the SNE polygon, representing ~18% of total observed gillnet takes on trips targeting monkfish. The greatest number of sturgeon caught on a single observed haul in the SNE polygon was 3.

    - December had 33 sturgeon takes in the SNE polygon, representing ~19% of total observed gillnet takes on trips targeting monkfish. The greatest number of sturgeon caught on a single observed haul in the SNE polygon was 3.
- New Jersey monkfish fishery
    - December had 29 observed sturgeon takes in the NJ polygon, representing ~17% of total observed gillnet takes on trips targeting monkfish. The greatest number of sturgeon caught on a single observed haul in the NJ polygon was 3.
- New Jersey spiny dogfish fishery
    - May had 12 observed sturgeon takes in the NJ polygon, representing ~7% of total observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single observed haul in the NJ polygon was 5.
    - November through December has 29 observed sturgeon takes in the NJ polygon, representing 16% of total observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single observed haul in the NJ polygon was 2.
- Delaware/Maryland/Virginia spiny dogfish fishery
    - Across both polygons, December through February has 79 observed takes, representing 44% of total observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single observed haul in these two Mid-Atlantic polygons was 9.

Rationale for gear restriction measures:

- Low-profile gillnet gear in the monkfish fishery: Low-profile gillnet gear in the monkfish fishery has been shown to reduce sturgeon bycatch in the New Jersey region based on various studies. More specifically, in the Fox, et al. 2019 study, sturgeon bycatch was reduced by ~76% (by a ratio of 4.2 to 1) when using the experimental low-profile gillnet gear in the New Jersey region. The authors emphasize that the results are highly uncertain, however. It is also worth noting that this study also evaluated monkfish catch rates with the experimental low-profile gillnet gear and found that vessels fishing out of New Jersey had no significant difference in monkfish catch rates, however, vessels fishing out of New York caught significantly fewer monkfish. This is the reason why use of low-profile gillnet gear is only being proposed for use by the monkfish fishery in the New Jersey bycatch hotspot polygons and not other regions and not in the spiny dogfish fishery until further research is done.

  Table 5 summarizes the gear studies. See Alternative 2 for additional detail.

- Requirement of low-profile gear would be delayed until January 1, 2026 to allow sufficient time for gear manufacturers to produce this gear for the commercial monkfish vessels. The delay will also allow additional time for the Harbor Porpoise Take Reduction Team to consider changes to minimum twine size requirements in the harbor porpoise regulations to potentially allow for an exemption for the low-profile gillnet gear which would use 0.81 mm versus 0.90 mm that is currently required for large-mesh gillnets (≥7") in the Harbor Porpoise regulations during applicable months (January-April).

- Overnight soak time prohibition from 8pm until 5am in the spiny dogfish fishery, defined as vessels with a spiny dogfish permit using gillnet gear with mesh between 5" - <10" (e.g., would not apply to the monkfish fishery which has a minimum mesh size of 10" until May 1, 2025 at which time the minimum mesh size is increased to 12"): Soak time limits may be feasible for the spiny dogfish fishery, which may vary by fisherman and region. Restricting soak times overnight is more enforceable compared to limiting spiny dogfish fishing to 24 hours or greater. The soak time restrictions are during times of documented high sturgeon bycatch as described above for

closures. The soak time restrictions reduce takes by reducing the time gear is in the water and should also reduce mortality, which increases when gear is unchecked for more than 14 hours at 15 degrees Celsius (59 Fahrenheit) (Kahn and Mohead 2010). Effectively requiring vessels to remove gear each day could have vessel safety issues in times of severe weather.

4.4 Alternative 4 – Low Impact Sturgeon Package (Least Time/Area Closures and Gear Restrictions)

Under Alternative 4, only the most targeted time/area closures and gear restrictions under consideration for both the federal monkfish and spiny dogfish gillnet fisheries would be implemented in the Atlantic sturgeon bycatch hotspot areas (Figure 5, Figure 6, Figure 7). This alternative has the fewest measures, based on times where observed sturgeon bycatch is the highest. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) using ≥10" mesh size and vessels with federal spiny dogfish permits using gillnet gear with mesh size of 5 - <10". Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon to be implemented on January 1, 2026. Additionally, an overnight soak time prohibition from 8pm until 5am (sunrise in Point Pleasant NJ on May 15 is 5:40am) is included for federal vessels targeting spiny dogfish in the New Jersey hotspot polygon in May. The polygons where the closures and gear restrictions would apply are the same for both the monkfish and spiny dogfish fisheries off New Jersey to help simplify the measures and to acknowledge that sturgeon are caught in this area by both fisheries. There are two Delaware/Maryland/Virginia bycatch polygons because of the two concentrations of observed sturgeon takes. The observed sturgeon takes occurred during similar times of the year, thus, the same closure and gear restriction measures would be the same across both polygons.

More specifically, Alternative 4 includes the following time/area closures and gear restrictions:

<u>Vessels with a federal fishing permit targeting monkfish in federal and/or state waters</u>

- Closure in Southern New England (SNE) bycatch hotspot polygon (Figure 11) during **December 1 – December 31**, the month with the highest observed sturgeon takes.
- Closure in New Jersey bycatch hotspot polygon (Figure 12) during **November 1 – November 30.**
  - Note, if the Councils do not select the option to require low-profile gillnet gear in the New Jersey hotspot in the month of December (month with the highest observed takes), then this closure should be in December instead of November.
- Low-profile gillnet gear requirement in New Jersey bycatch hotspot polygon (Figure 12) during **December 1 – December 31.**

<u>Vessels with a federal fishing permit targeting spiny dogfish in federal and/or state waters</u>

- Closure in New Jersey bycatch hotspot polygon (Figure 12) during **November 1 – November 30.**
- Overnight soak time prohibition from 8pm until 5am in New Jersey bycatch hotspot polygon (Figure 12) during **December 1 – December 31** and **May 1 – May 31.**
- Closure in the Delaware/Maryland/Virginia bycatch hotspot polygons (Figure 13) during **December 1 – January 31**, two consecutive months with the highest observed sturgeon takes.

Note, time/area closures and gear restrictions would be implemented in both federal and state waters, however, the measures would only apply to vessels with a federal fishing permit. Atlantic States Marine

Fisheries Commission (ASMFC) is expected to take complementary action to reduce sturgeon interactions by state vessels in state waters.

Figure 11. Southern New England sturgeon polygon applicable only to the federal monkfish fishery.

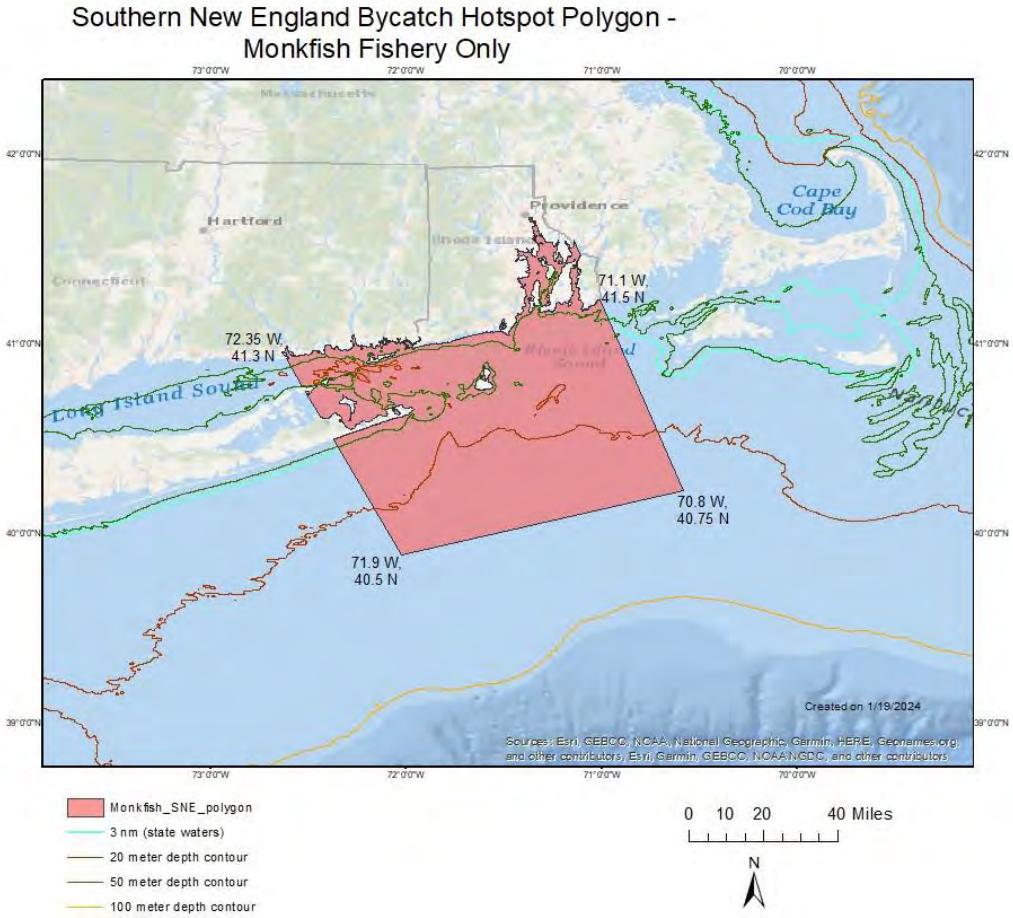


Figure 12. New Jersey sturgeon polygon applicable to both the federal monkfish and spiny dogfish fisheries.

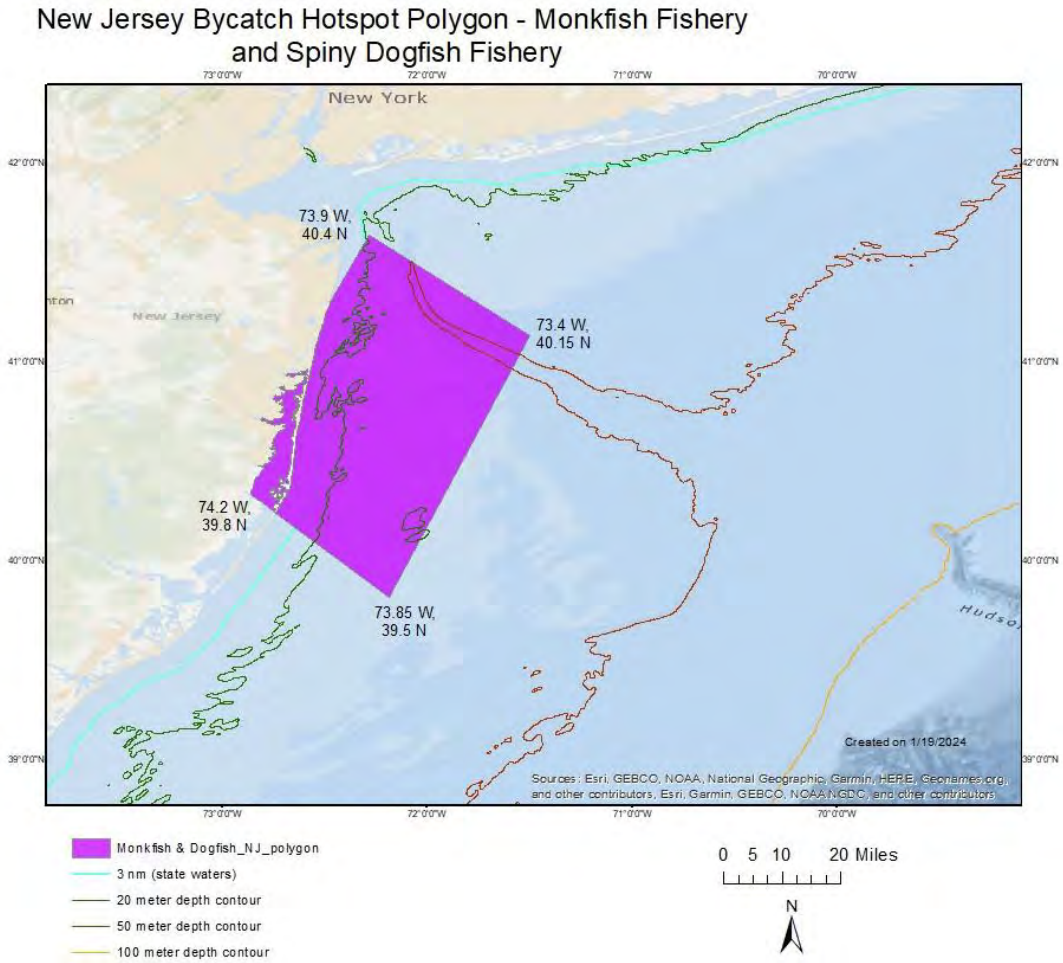
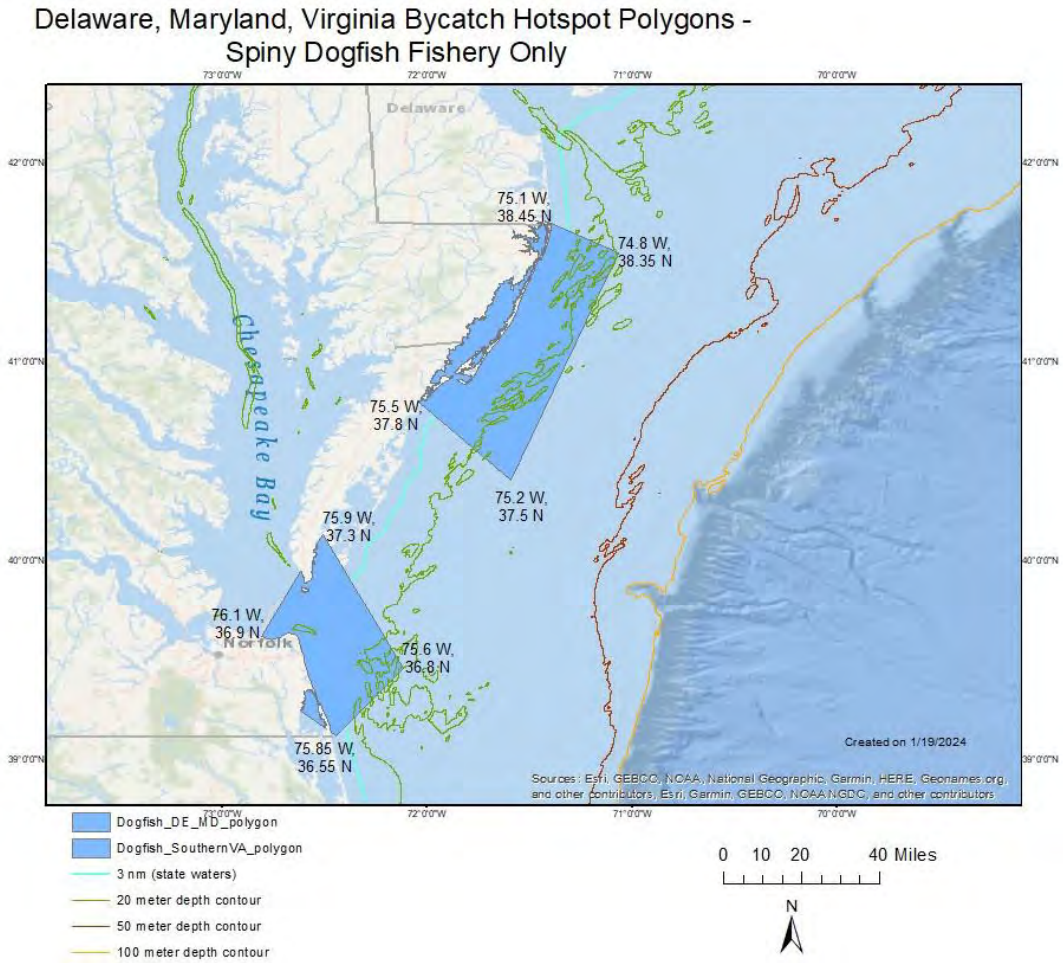


Figure 13. Delaware/Maryland/Virginia sturgeon polygon applicable to only the federal spiny dogfish fishery.



Rationale for specific time/area closures: The time-area closures would likely reduce overall gillnet fishing, thus eliminating some interactions with Atlantic sturgeon (and mortality) by federal fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and spiny dogfish using gillnet gear in federal and state waters. These hotspot area polygons and times in which measures would apply are based on observer data indicating when and where observed sturgeon takes occurred most frequently from 2017-2019 and 2021-2022. If effort shifts to areas with less sturgeon, that would also reduce both sturgeon takes and mortality. This low impact Alternative would have the least beneficial impacts for sturgeon and facilitates comparing a range of alternatives.

Rationale for specific timing of measures are included as follows for observed gillnet takes on trips targeting monkfish and spiny dogfish from 2017-2019 and 2021-2022. There were 355 observed sturgeon takes for gillnet trips targeting monkfish and spiny dogfish, 175 from the monkfish fishery and 180 from the spiny dogfish fishery. See Section 4.0 for how sturgeon interactions were determined.

- Southern New England monkfish fishery
    - December had 33 observed sturgeon takes in the SNE polygon, representing ~19% of total observed gillnet takes on trips targeting monkfish. The greatest number of sturgeon caught on a single observed haul in the SNE polygon was 3.

- New Jersey monkfish fishery
    - November did not have any sturgeon takes in the NJ polygon in the monkfish fishery, however, there were substantial observed sturgeon takes in the spiny dogfish fishery in this area during the same time period so there was interest in aligning these time/area measures for both fisheries.
    - December had 29 observed sturgeon takes in the NJ polygon, representing ~17% of total observed gillnet takes on trips targeting monkfish. The greatest number of sturgeon caught on a single observed haul in the NJ polygon was 3.
- New Jersey spiny dogfish fishery
    - May had 12 observed sturgeon takes in the NJ polygon, representing ~7% of total observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single haul in the NJ polygon was 5.
    - November through December has 29 observed sturgeon takes in the NJ polygon, representing 16% of total observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single observed haul in the NJ polygon was 2. The number of sturgeon takes for each of these months cannot be shared due to data confidentiality reasons, though it is worth noting that December represents <1% of total observed gillnet takes on trips targeting spiny dogfish.
- Delaware/Maryland/Virginia spiny dogfish fishery
    - Across both polygons, December through January had 69 sturgeon, representing ~38% of observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single observed haul in these two Mid-Atlantic polygons was 9.

Rationale for gear restriction measures:

- Low-profile gillnet gear in the monkfish fishery: Low-profile gillnet gear in the monkfish fishery has been shown to reduce sturgeon bycatch in the New Jersey region based on various studies. More specifically, in the Fox, et al. 2019 study, sturgeon bycatch was reduced by ~76% (by a ratio of 4.2 to 1) when using the experimental low-profile gillnet gear in the New Jersey region. The authors emphasize that the results are highly uncertain, however. It is also worth noting that this study also evaluated monkfish catch rates with the experimental low-profile gillnet gear and found that vessels fishing out of New Jersey had no significant difference in monkfish catch rates, however, vessels fishing out of New York caught significantly fewer monkfish. This is the reason why use of low-profile gillnet gear is only being proposed for use by the monkfish fishery in the New Jersey bycatch hotspot polygons and not other regions and not in the spiny dogfish fishery until further research is done.

  Table 5 summarizes the gear studies. See Alternative 2 for additional detail.

- Requirement of low-profile gear would be delayed until January 1, 2026 to allow sufficient time for gear manufacturers to produce this gear for the commercial monkfish vessels. The delay will also allow additional time for the Harbor Porpoise Take Reduction Team to consider changes to minimum twine size requirements in the harbor porpoise regulations to potentially allow for an exemption for the low-profile gillnet gear which would use 0.81 mm versus 0.90 mm that is currently required for large-mesh gillnets (≥7") in the Harbor Porpoise regulations during applicable months (January-April).

- Overnight soak time prohibition from 8pm until 5am in the spiny dogfish fishery, defined as vessels with a spiny dogfish permit using gillnet gear with mesh between 5" - <10" (e.g., would not apply to the monkfish fishery which has a minimum mesh size of 10" until May 1, 2025 at which time the minimum mesh size is increased to 12"): Soak time limits may be feasible for the spiny dogfish fishery, which may vary by fisherman and region. Restricting soak times overnight

is more enforceable compared to limiting spiny dogfish fishing to 24 hours or greater. The soak time restrictions are during times of documented high sturgeon bycatch as described above for closures. The soak time restrictions reduce takes by reducing the time gear is in the water and should also reduce mortality, which increases when gear is unchecked for more than 14 hours at 15 degrees Celsius (59 Farenheight) (Kahn and Mohead 2010). Effectively requiring vessels to remove gear each day could have vessel safety issues in times of severe weather.

4.5 ALTERNATIVE 5 – GEAR-ONLY STURGEON PACKAGE

Under Alternative 5, there would be gear restrictions for both the federal monkfish and spiny dogfish gillnet fisheries in several Atlantic sturgeon bycatch hotspot areas (Figure 15 and Figure 16). The gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) using ≥10" mesh size and vessels with federal spiny dogfish permits using gillnet gear with mesh size of 5 - <10". Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon to be implemented on January 1, 2026. Additionally, an overnight soak time prohibition from 8pm until 5am (sunrise in Point Pleasant NJ on May 15 is 5:40 am) is included for federal vessels targeting spiny dogfish in the New Jersey and the two more southern Mid-Atlantic polygons. The polygons where the gear restrictions would apply are the same for both the monkfish and spiny dogfish fisheries off New Jersey to help simplify the measures and to acknowledge that sturgeon are caught in this area by both fisheries. There are two Delaware/Maryland/Virginia bycatch polygons because of the two concentrations of observed sturgeon takes. The observed sturgeon takes occurred during similar times of the year, thus, the same gear restriction measures would be the same across both polygons.

More specifically, Alternative 5 includes the following time/area closures and gear restrictions:

Vessels with a federal fishing permit targeting monkfish in federal and/or state waters

- Low-profile gillnet gear requirement in New Jersey bycatch hotspot polygon (Figure 15), **Year-round.**

Vessels with a federal fishing permit targeting spiny dogfish in federal and/or state waters

- Overnight soak time prohibition from 8pm until 5am in the New Jersey bycatch hotspot polygon (Figure 15) during **May 1 – May 31** and **November 1 – November 30.**
- Overnight soak time prohibition from 8pm until 5am in the Delaware/Maryland/Virginia bycatch hotspot polygons (Figure 16) during **November 1 – March 31.**

These gear restrictions would be implemented in both federal and state waters, however, the measures would only apply to vessels with a federal fishing permit. Atlantic States Marine Fisheries Commission (ASMFC) is expected to take complementary action to reduce sturgeon interactions by state vessels in state waters.

Sub-alternative 5a: Vessels using less than 5 ¼ inch gillnet mesh would be exempted from the New Jersey polygon overnight soak time prohibition.

Sub-alternative 5b: Vessels using less than 5 ¼ inch gillnet mesh would be exempted from the Delaware/Maryland/Virginia polygon overnight soak time prohibition.

FMAT/PDT Recommendation:

Sub-alternative 5a: There were insufficient trips available to evaluate any potential exemptions for New Jersey, thus, the FMAT/PDT does not recommend any exemptions for

this smaller mesh in this area. Observer data by mesh size in the NJ area for vessels targeting dogfish cannot be provided due to data confidentiality issues.

Sub-alternative 5b: The FMAT/PDT did not have time to develop a specific recommendation but generally concluded some exemption seemed reasonable but maybe not for the month with the highest bycatch rates. Subsequent analyses showed this month to be December, and staff recommended careful consideration of not exempting December from the Delmarva polygon overnight soak prohibition even if gear less than 5.25" is used.

***Rationale*:** Analyses of observer data indicate that fishing for spiny dogfish south of 38.8 N latitude (approximate latitude of Lewes/Cape Henlopen, DE) with mesh of 5" has lower sturgeon take rates based on observer data (Table 6, Figure 14). Most of the VTR landings for the 5" to <5.5" mesh bin appear to have been with mesh of 5", supporting a measure that exempted mesh less than 5.25 inches (note the higher rate on the next larger mesh bin). Monthly analyses indicated for these same trips, December had the highest overall sturgeon catch rate (https://d23h0vhsm26o6d.cloudfront.net/10.-FMAT-PDT-Supplemental_20240312.pdf)

Table 6. Takes by mesh size categories in Delmarva Area 2017-2019 and 2021-2022 south of 38.8 N Lat.

Mesh Category (inches)	Sturgeon catches	Observed Trips	Sturgeon catch per observed trip
5 to <5.5	25	278	0.09
5.5 to <6	41	143	0.29
6 to <6.5	58	170	0.34

Figure 14. Sturgeon take rates by mesh size categories in Delmarva Area 2017-2019 and 2021-2022 south of 38.8 N Lat.

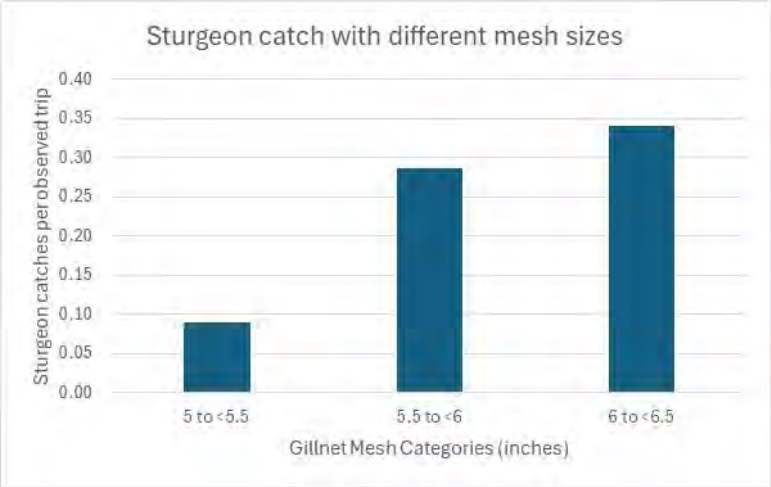


Figure 15. New Jersey sturgeon polygon applicable to both the federal monkfish and spiny dogfish fisheries.

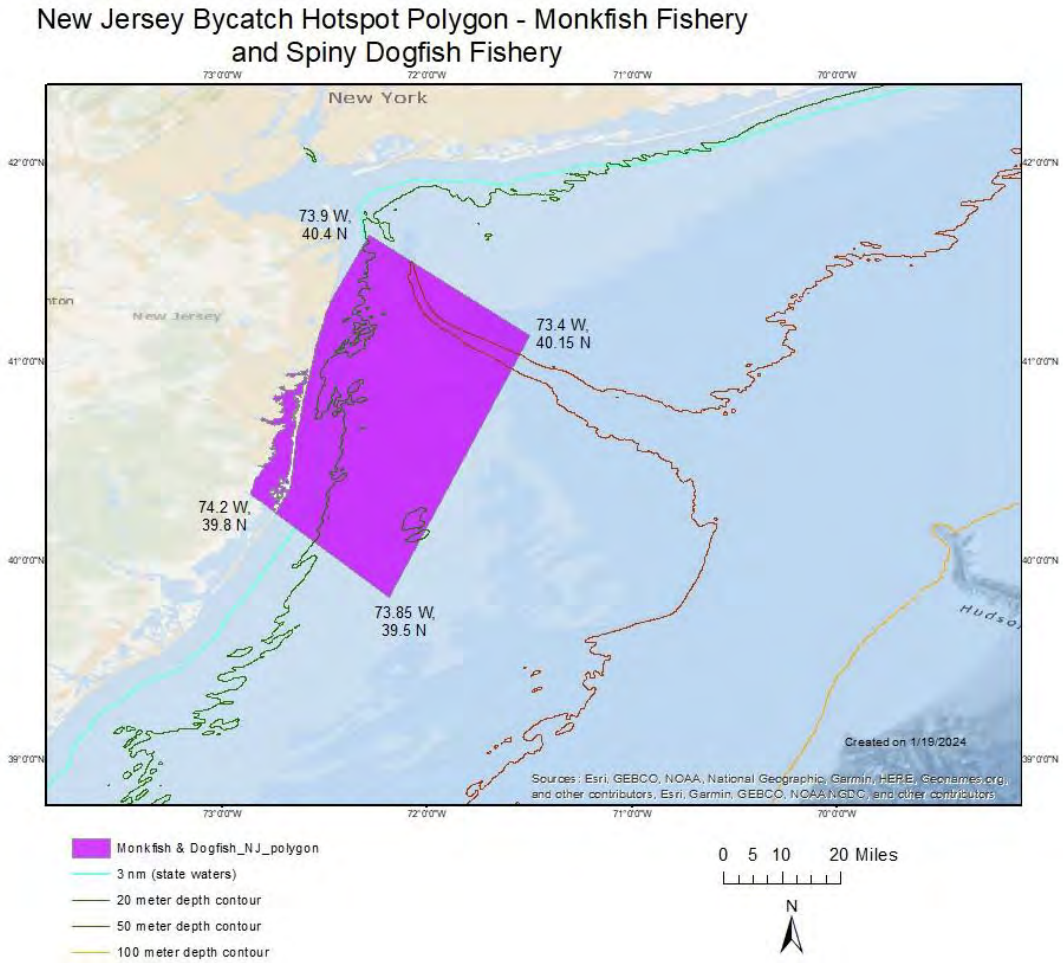
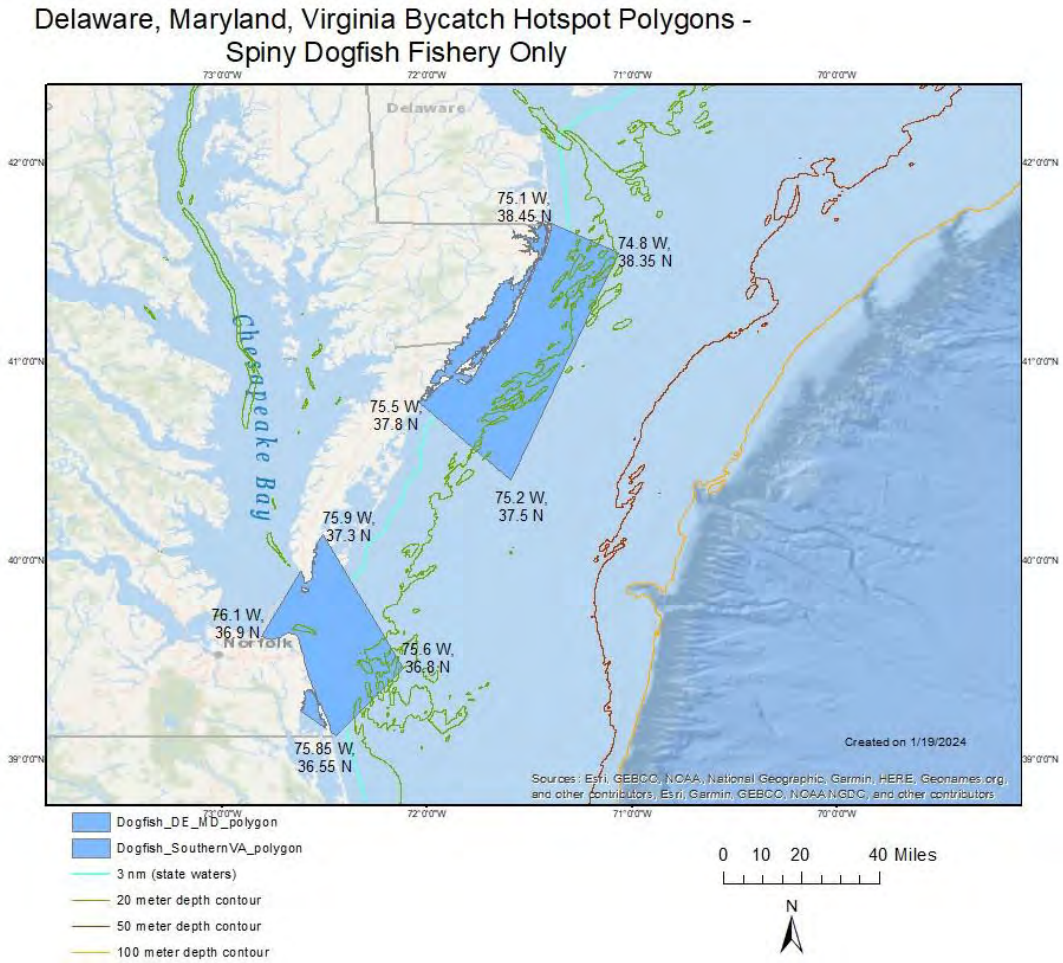


Figure 16. Delaware/Maryland/Virginia sturgeon polygon applicable to only the federal spiny dogfish fishery.



Rationale for specific time periods: The time periods in which gear restrictions would apply are based on reducing interactions with Atlantic sturgeon by federal fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and spiny dogfish using gillnet gear in federal and state waters in the bycatch hotspot areas. These hotspot area polygons and times in which measures would apply were based on observer data including when and where observed sturgeon takes for federal gillnet vessels targeting monkfish and spiny dogfish occurred from 2017-2019 and 2021-2022. There were 355 observed sturgeon takes for gillnet trips targeting monkfish and spiny dogfish, 175 from the monkfish fishery and 180 from the spiny dogfish fishery. See Section 4.0 for how sturgeon interactions were determined.

- <u>New Jersey spiny dogfish fishery</u>
    - o May had 12 observed sturgeon takes in the NJ polygon, representing ~7% of total observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single observed haul in the NJ polygon was 5.
    - o November had 28 observed sturgeon takes in the NJ polygon, representing ~16% of total observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single observed haul in the NJ polygon was 2.
- <u>Delaware/Maryland/Virginia spiny dogfish fishery</u>
    - o Across both polygons, November through March had 107, representing ~59% of total observed gillnet takes on trips targeting spiny dogfish. The greatest number of sturgeon caught on a single observed haul in these two Mid-Atlantic polygons was 9.

Rationale for gear restriction measures:

- Low-profile gillnet gear in the monkfish fishery: Low-profile gillnet gear in the monkfish fishery has been shown to reduce sturgeon bycatch in the New Jersey region based on various studies. More specifically, in the Fox, et al. 2019 study, sturgeon bycatch was reduced by ~76% (by a ratio of 4.2 to 1) when using the experimental low-profile gillnet gear in the New Jersey region. The authors emphasize that the results are highly uncertain, however. It is also worth noting that this study also evaluated monkfish catch rates with the experimental low-profile gillnet gear and found that vessels fishing out of New Jersey had no significant difference in monkfish catch rates, however, vessels fishing out of New York caught significantly fewer monkfish. This is the reason why use of low-profile gillnet gear is only being proposed for use by the monkfish fishery in the New Jersey bycatch hotspot polygons and not other regions and not in the spiny dogfish fishery until further research is done.

  Table 5 summarizes the gear studies. See Alternative 2 for additional detail.

- Requirement of low-profile gear would be delayed until January 1, 2026 to allow sufficient time for gear manufacturers to produce this gear for the commercial monkfish vessels. The delay will also allow additional time for the Harbor Porpoise Take Reduction Team to consider changes to minimum twine size requirements in the harbor porpoise regulations to potentially allow for an exemption for the low-profile gillnet gear which would use 0.81 mm versus 0.90 mm that is currently required for large-mesh gillnets (≥7") in the Harbor Porpoise regulations during applicable months (January-April).

- Overnight soak time prohibition from 8pm until 5am in the spiny dogfish fishery, defined as vessels with a spiny dogfish permit using gillnet gear with mesh between 5" - <10" (e.g., would not apply to the monkfish fishery which has a minimum mesh size of 10" until May 1, 2025 at which time the minimum mesh size is increased to 12"): Soak time limits may be feasible for the spiny dogfish fishery, which may vary by fisherman and region. Restricting soak times overnight is more enforceable compared to limiting spiny dogfish fishing to 24 hours or greater. The soak time restrictions reduce takes by reducing the time gear is in the water and should also reduce mortality, which increases when gear is unchecked for more than 14 hours at 15 degrees Celsius (59 Fahrenheit) (Kahn and Mohead 2010). Forcing vessels to remove gear each day could have vessel safety issues in times of severe weather.

4.6 Alternatives Considered but Rejected

4.6.1 Adding an option to use Vessel Monitoring System (VMS)

The Councils considered using VMS as an enforcement / management tool as part of the range of the monkfish and spiny dogfish alternatives to make soak time restrictions and area closures more enforceable. Currently, VMS is not a requirement in the monkfish and spiny dogfish fisheries, however, this was discussed during Framework 13 development for the monkfish fishery in 2022. During the Joint Monkfish and Dogfish Committee meeting, invited enforcement representatives clarified that VMS is not required to enforce time/area closures, though is still helpful to identify the fishery declaration and vessel location. The Coast Guard uses routine patrols in aircraft and cutters and can do targeted boardings if there are known restrictions in the area regardless of whether a vessel has VMS or not. There was general concern for the impacts of any VMS requirement for these fisheries given the added cost, quota reductions, processor limitations, etc. As part of its priority list for work to be potentially done in 2024, the NEFMC decided instead to add "review of the utility of VMS and how it is used for enforcement in coordination with the MAFMC" given the broader implications for requiring VMS in other fisheries beyond monkfish and spiny dogfish.

4.6.2 Soak time restrictions of 24 hours or greater in the monkfish and spiny dogfish fisheries

The Councils considered restricting soak time limits of 24 hours or greater for the monkfish and spiny dogfish fisheries, however, the options were removed from further consideration given these restrictions do not necessarily reduce sturgeon interactions/bycatch and there are enforcement concerns.

4.6.3 Soak time and low-profile gear restrictions and closures by entire statistical area approach

The Councils considered applying gear restrictions (soak time limits and low-profile gillnet gear) and closures by entire statistical area, however, these are broad areas that are well outside of sturgeon bycatch hotpots and are likely to cause substantial impacts to fishermen.

4.6.4 Shorter increments of time/area closures and additional partial-year gear restriction time periods

Shorter, weekly increments of time/area closures and additional partial-year gear restriction time periods were considered to allow for various combinations of shorter time periods across areas and fisheries, but after initial analysis, these measures were ultimately removed from further consideration. This is because these shorter temporal measures were not likely to achieve the sturgeon bycatch reduction targets identified by GARFO's Protected Resource Division in a December 4, 2023 memo addressed to the Sturgeon Bycatch FMAT/PDT. Furthermore, the available data did not support an analysis to that level of temporal and spatial resolution without confidentiality issues. The refined range of alternatives in Section 4.0 is a more simplified version that captures the full range of possible time/area closures and gear restriction measures.

5.0 AFFECTED ENVIRONMENT

The Affected Environment is described in this action based on valued ecosystem components (VECs), including target species, non-target species, physical environment and Essential Fish Habitat (EFH), protected resources, and human communities. VECs represent the resources, areas and human communities that may be affected by the alternatives under consideration in this amendment. VECs are the focus since they are the "place" where the impacts of management actions occur.

5.1 TARGET SPECIES

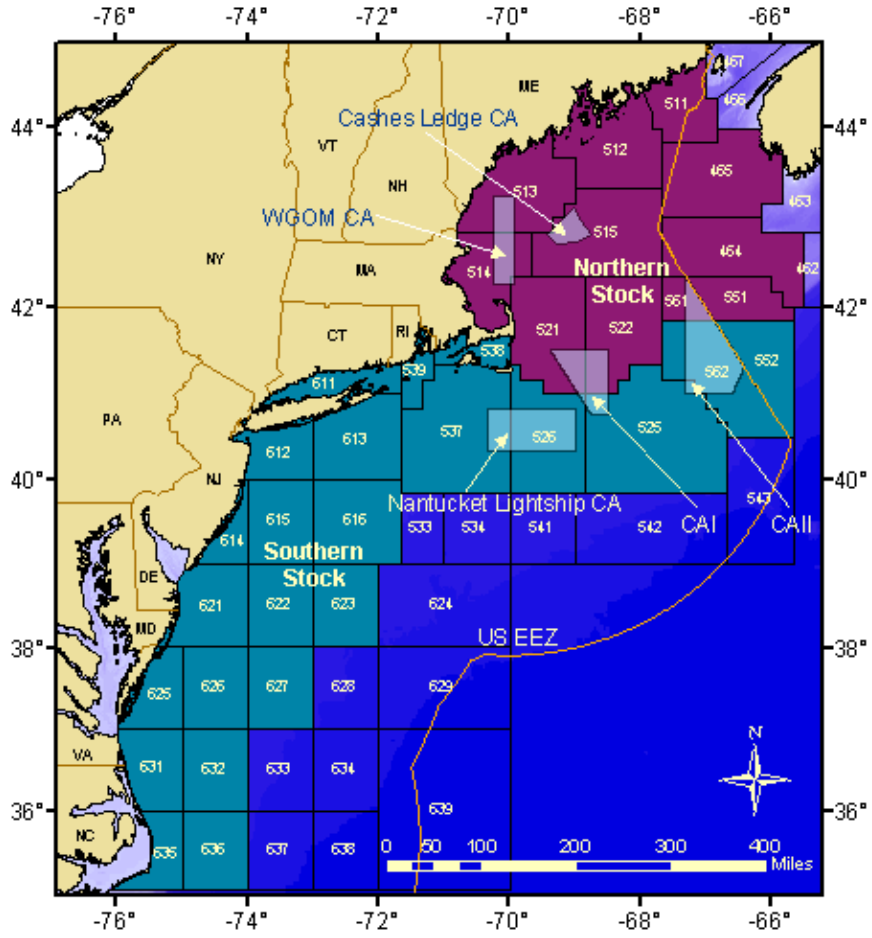
MONKFISH

Monkfish Management: The monkfish fishery in U.S. waters is jointly managed under the Monkfish Fishery Management Plan (FMP) by the New England Fishery Management Council (NEFMC) and the Mid-Atlantic Fishery Management Council (MAFMC), with the NEFMC having the administrative lead. The fishery extends from Maine to North Carolina out to the continental shelf margin. The fishery is assessed and managed in two areas, northern and southern (Map 1). The Northern Fishery Management Area (NFMA) covers the Gulf of Maine (GOM) and northern part of Georges Bank (GB), and the Southern Fishery Management Area (SFMA) extends from the southern flank of GB through the Mid-Atlantic Bight to North Carolina. The directed monkfish fishery is primarily managed with a yearly allocation of monkfish Days-at-Sea (DAS) and possession limits, though incidental landings are allowed in other fisheries.

Monkfish Distribution and Life History. Monkfish (*Lophius americanus*), also called goosefish, occur in the Northwest Atlantic Ocean from the Grand Banks and northern Gulf of St. Lawrence south to Cape Hatteras, North Carolina (Collette & Klein-MacPhee 2002). Data from resource surveys spanning the period 1948-2007 suggest that seasonal onshore-offshore migrations occur (from inshore areas in autumn to depths of at least 900 m in mid-spring) and appear to be related to spawning and possibly food availability (Richards *et al.* 2008). Stock structure is not well understood, but two assessment and management areas for monkfish, northern and southern, were defined in 1999 through the original Fishery Management Plan based on patterns of recruitment and growth and differences in how the fisheries are prosecuted (NEFSC 2020b).

Map 1. Fishery statistical areas used to define the Monkfish NFMA and SFMA.

Source: NEFSC (2020b).



Monkfish Stock Status. The status of the monkfish stocks changed in 2023 to unknown from not subject to overfishing and not overfished, based on the 2022 monkfish stock assessment. These changes were made because the 2013 assessment that supported the prior stock status determinations were rejected during the 2016 assessment due to an invalid ageing method. Analytical assessments have not been used for monkfish since 2013, and index-based approaches have been used since to determine catch advice. A brief history of recent assessments is provided.

The monkfish stock assessment in 2010 (SARC 50) was an analytical assessment that used the SCALE model (had been in use since 2007), concluding that monkfish was not overfished and overfishing was not occurring but recognized significant uncertainty in this determination. The 2013 operational assessment also used the SCALE model and reached the same conclusion.

The 2016 operational assessment, that informed FY 2017-2019 specifications, did not update the SCALE model because its use was invalidated by age validation research (Richards 2016). This assessment concluded that many of the biological reference points were no longer relevant due to invalidation of the growth model (e.g., no estimation of absolute biomass, F_{max} could not be recalculated), and thus were not updated. Stock status was concluded to be unknown. A strong 2015-year class was identified in both the survey and the discard data. The assessment review panel concluded that using a survey index-based method for developing catch advice was appropriate. A method now called the "Ismooth" approach was used that set catch advice based on the recent trend in NEFSC trawl survey indices. This method

calculates the proportional rate of change in a smoothed average of the fall and spring NEFSC surveys over the most recent three years. This rate is the slope of the regression trend from the last three years, which is then multiplied by the most recent three years average of fishery catch to determine catch advice. The multipliers were 1.02 in the NFMA and 0.87 in the SFMA (Table 7):

*Equation 1: catch advice = Trawl survey multiplier * latest 3-year average catch = ABC*

The 2019 assessment continued use of the Ismooth method due to ongoing uncertainties. The assessment continued to see a strong recruitment event from 2015 that led to an increase in biomass in 2016-2018, though abundance declined in 2019 as recruitment returned to average levels (NEFSC 2020b). The Ismooth multipliers were 1.2 in the NFMA and 1.0 in the SFMA.

Table 7. NEFSC trawl survey multipliers for monkfish from the last three assessments.

Assessment year	NEFSC trawl survey multiplier	
	NFMA	SFMA
2016	1.02	0.87
2019	1.2	1.0
2022	0.829	0.646
Source: Richards (2016); NEFSC (2020b); Deroba (2022).		

The 2022 management track assessment again used the Ismooth method to develop catch advice. Like the 2016 and 2019 assessments, this assessment concluded that the status of monkfish remains unknown. The multipliers were 0.829 for NFMA and 0.646 for SFMA, tracking the decline in monkfish biomass in the NEFSC trawl surveys. The fishery catch time series was updated, including a new discard mortality rate for scallop dredges (reduced to 64% from 100%) and various data corrections (Deroba 2022).

The October 19, 2022 Monkfish PDT memo to the SSC on OFLs and ABCs details how these prior assessments were used in setting specifications.

SPINY DOGFISH

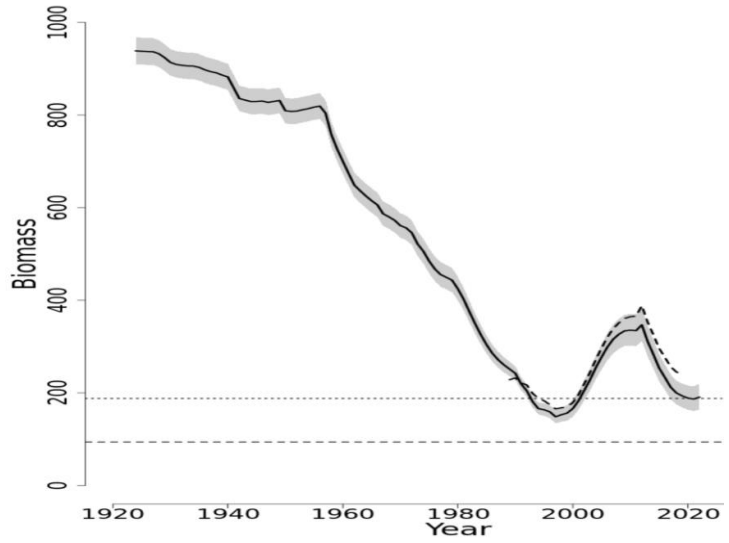
Spiny dogfish Management: The spiny dogfish fishery in U.S. waters is jointly managed under the Spiny dogfish Fishery Management Plan (FMP) by the Mid-Atlantic Fishery Management Council (MAFMC) and the New England Fishery Management Council (NEFMC), with the MAFMC having the administrative lead. The management unit area incudes all U.S. east coast water. Canadian landings are also accounted for as part of setting annual specifications (the assessment integrates Canadian catch data).

Life History: Spiny dogfish (*Squalus acanthias*) is a long-lived (up to 50 years) schooling shark that is widely distributed across both sides of the North Atlantic. The Northwest Atlantic population is treated as one stock – substantial migration is not believed to occur across the two sides of the Atlantic (though tagging studies do find occasional long-distance migrators (e.g. Hjertenes 1980, Templeman 1954). Spiny dogfish are considered one of the most migratory shark species in the northwest Atlantic (Compagno 1984). In the northwest Atlantic, spiny dogfish occur from Florida to Canada, with highest concentrations from Cape Hatteras to Nova Scotia. In the winter and spring, they are found primarily in Mid-Atlantic waters, and tend to migrate north in the summer and fall, with concentrations in southern New England, Georges Bank, and the Gulf of Maine (though a recent study has created some uncertainty regarding the established migration paradigm, Carlson 2014). Spiny dogfish have a wide-ranging diet consisting of fish, such as herring, mackerel and sand lance, as well as invertebrates including ctenophores, squid, crustaceans and bivalves. Spiny dogfish are live bearers with a very long gestation period (18-24 months), and are slow growing with late maturation. These reproductive characteristics generally make a stock more vulnerable to overfishing (https://www.fisheries.noaa.gov/international-

affairs/shark-conservation, NOAA 2001). Females grow larger than males and as a result, the fishery primarily targets females.

Spiny Dogfish Stock Status: Based on the 2023 Spiny Dogfish MTA, which used the Stock Synthesis 3 (SS3) assessment model and passed peer review in 2023, the spiny dogfish stock was neither overfished nor experiencing overfishing in 2022[5]. Biomass (spawning output) in 2022 was estimated to be at 101% of the reference point/target, despite being relatively near its all-time low. Fishing mortality in 2022 was 81% of the overfishing threshold (the first time in the last decade without overfishing). Biomass and fishing mortality figures are immediately below. Due to the stock's reduced productivity, the SS3 model projections predict that relatively low future catches are needed to stay at the target (NEFSC 2023).

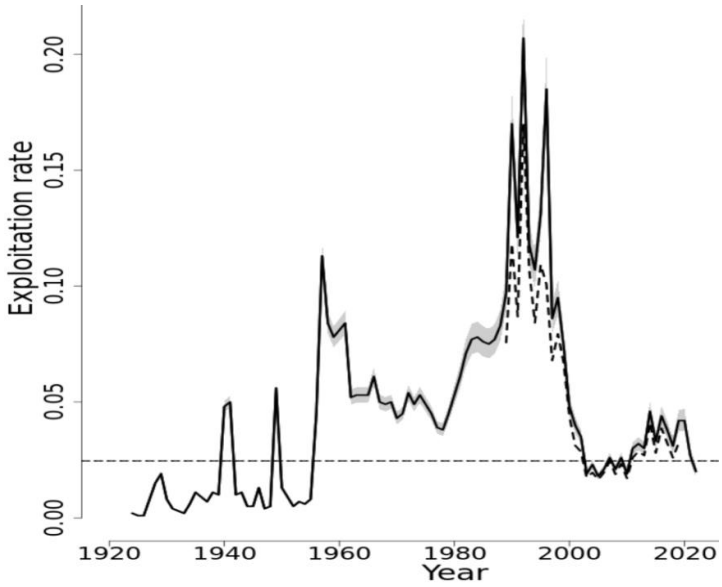
Figure 17. Time series of spawning output 1924-2022 from the accepted SS3 model with reference points (top horizontal dotted line is the target, lower dashed horizontal line is the overfished threshold.



Source: 2023 Spiny Dogfish Management Track Assessment, available at https://www.mafmc.org/ssc-meetings/october-30-2023

[5] The assessment and its peer review summary are available at https://www.mafmc.org/ssc-meetings/october-30-2023.

Figure 18. Time series of fishing mortality 1924-2022 from the accepted SS3 model with reference points (top horizontal dotted line is the target, lower dashed horizontal line is the overfished threshold.



Source: 2023 Spiny Dogfish Management Track Assessment, available at https://www.mafmc.org/ssc-meetings/october-30-2023

5.2 NON-TARGET SPECIES

Note: Based on fishery differences and public input over the years from affected communities, the two Councils take slightly different approaches in describing the interaction of a fishery with Non-Target species, so Section 5.2 (monkfish focus) and 5.3 (spiny dogfish focus) differ somewhat in formatting.

MONKFISH FOCUS

The monkfish fishery is closely associated with several fisheries managed by other FMPs, specifically the groundfish, skate, spiny dogfish, and scallop fisheries. Particularly in the NFMA, monkfish can be targeted or caught as incidental bycatch during trips in which groundfish are also caught, depending on the focus of a trip. Monkfish are caught as bycatch in the scallop fishery, particularly in the SFMA. Further, skates and spiny dogfish are often caught when targeting monkfish in both areas, but particularly in the SFMA.

5.2.1 Northeast Multispecies

Life History and Population. The Northeast Multispecies FMP manages 20 groundfish stocks and stock status varies by stock (NEFMC 2022a).

In U.S. waters, cod are currently managed as two stocks: Gulf of Maine (GOM) and Georges Bank (GB). Based on the updated assessment, the GOM cod stock is overfished and overfishing is occurring for the M=0.2 model and overfished and overfishing is not occurring for the M-ramp model. Georges Bank cod, *Gadus morhua*, is the most southerly cod stock in the world. Based on the 2021 assessment, overfishing

status is considered unknown and stock status remains overfished based on a qualitative evaluation of poor stock condition (NEFSC 2022). Recent work by the Atlantic Cod Stock Structure Working Group proposes a new stock structure with five biological stocks in U.S. waters: Georges Bank, Southern New England, Western Gulf of Maine and Cape Cod winter spawners, Western Gulf of Maine spring spawners, and Eastern Gulf of Maine (McBride & Smedbol 2022). The Western Gulf of Maine spring spawners overlaps spatially with the Western Gulf of Maine and Cape Cod winter spawner stock. The Council is working on a transition plan for management of the current two stocks to up to five stocks and the research track working group is currently working to determine how these stocks will be assessed, tentatively scheduled for 2023.

Six distinct haddock stocks have been identified, and the two which occur in U.S. waters are associated with Georges Bank and the Gulf of Maine. As of its 2022 assessment, GOM haddock is not overfished but overfishing is occurring; the 2021 SSB was estimated to be at 16,528 mt, which is 270% of the biomass target (NEFSC 2022 in prep). GB haddock is not overfished and overfishing is not occurring; the 2021 SSB was estimated to be 79,513 mt, which is 66% of the biomass target (NEFSC 2020b).

Off the U.S. coast, American plaice are managed as a single stock in the Gulf of Maine and Georges Bank regions. In the Gulf of Maine and Georges Bank, the American plaice is not overfished and overfishing is not occurring. The stock was in a rebuilding plan, but based on the 2019 assessment, the stock is now considered rebuilt (NEFSC 2020b).

Witch flounder is managed as a unit stock. Because a stock assessment model framework is lacking, no historical estimates of biomass, fishing mortality rate, or recruitment can be calculated. NMFS determined that the stock status for witch flounder will remain overfished, with overfishing unknown, consistent with the 2016 benchmark assessment for this stock.

Winter flounder is managed and assessed in U.S. waters as three stocks: Gulf of Maine, southern New England/Mid-Atlantic, and Georges Bank. Based on the recommendation of the 2020 Peer Review Panel, overfishing is not occurring for GOM winter flounder, but the overfished status is unknown; GB winter flounder is overfished and overfishing is not occurring; SNE/MA winter flounder is overfished, but overfishing is not occurring (NEFSC 2020).

NMFS manages three yellowtail stocks off the U.S. coast including the CC/GOM, GB, and SNE/MA stocks. Based on the 2019 operational assessment, the CC/GOM yellowtail flounder stock is not overfished and overfishing is not occurring. GB yellowtail flounder status determination relative to reference points is not possible because reference points cannot be defined; 2020 stock assessment results continue to indicate low stock biomass and poor productivity. Based on the 2019 operational assessment, the SNE/MA yellowtail flounder stock is overfished and overfishing is not occurring (NEFSC 2020b).

NMFS manages Acadian redfish inhabiting the U.S. waters of the Gulf of Maine and deeper portions of Georges Bank and the Great South Channel as a unit stock. Based on the recommendation of the 2020 Peer Review Panel, redfish is not overfished and overfishing is not occurring. Redfish is rebuilt.

Pollock are assessed as a single unit, though there is considerable movement of pollock between the Scotian Shelf, Georges Bank, and the Gulf of Maine. Based on the 2019 operational assessment, the pollock stock is not overfished and overfishing is not occurring.

White hake is common on muddy bottom throughout the Gulf of Maine. Based on the 2019 operational assessment, the white hake stock is overfished and overfishing is not occurring.

Windowpane flounders are assessed and managed as two stocks: Gulf of Maine-Georges Bank (GOM/GB or northern) and Southern New England-Mid-Atlantic Bight (SNE/MA or southern) due to differences in growth rates, size at maturity, and relative abundance trends. Based on the recommendations of the 2020 Peer Review Panel, northern windowpane flounder stock status is unknown; Southern windowpane

flounder is not overfished and overfishing is not occurring (status has not changed from the 2018 assessment) (NEFSC 2020b).

In US waters, ocean pout are assessed and managed as a unit stock from the Gulf of Maine to Delaware. Based on the 2020 assessment, ocean pout is overfished but overfishing is not occurring. The stock is not rebuilding as expected, despite low catch. Discards comprise most of the catch since the no possession regulation was implemented in May 2010.

Atlantic halibut is the largest species of flatfish and is distributed from Labrador to southern New England. Halibut is assessed using a data-poor method (First Second Derivative model), and projections are not possible using this method. Biological reference points are unknown for halibut, but the stock is considered overfished. Halibut is currently in a rebuilding plan with an end date of 2056.

Atlantic wolffish is a benthic fish distributed off Greenland to Cape Cod and sometimes in southern New England and New Jersey waters. Based on the recommendations of the 2020 Peer Review Panel, wolffish is overfished but overfishing is not occurring. Wolffish is in a rebuilding plan, but the end date is not defined.

Management and Fishery. Northeast multispecies are managed under a dual management system which breaks the fishery into two components: sectors and the common pool. For stocks that permit fishing, each sector is allotted a share of each stock's ACL that consists of the sum of individual sector member's potential sector contribution based on their annual catch entitlements. Sector allocations are strictly controlled as hard total allowable catch limits and retention is required for all stocks managed under an ACL. Overages are subject to accountability measures including payback from the sector's allocation for the following year. Common pool vessels are allocated days at sea (DAS) and their effort further is controlled by a variety of measures including trip limits, closed areas, minimum fish size and gear restrictions varying between stocks. Only a very small portion of the ACL is allotted to the common pool. Framework Adjustment 63 to the NE Multispecies FMP has more detail on the stock status and control of fishing effort (NEFMC 2022a).

5.2.2 Skates

Life History and Population. The Northeast Skate Complex Fishery Management Plan (Skate FMP) specifies the management measures for seven skate species (barndoor, clearnose, little, rosette, smooth, thorny, and winter skate) off the New England and Mid-Atlantic coasts. Specifications are set for skates as a complex (e.g., one ACL) every two years, which include possession limits for the skate wing and bait fisheries. These fisheries have different seasonal management structures and are subject to effort controls and accountability measures. Overfishing is not occurring on any of these species, and only one species, thorny skate, is overfished.

Management and Fishery. A detailed description of the commercial skate fishery and fishing communities may be found in Framework Adjustment 8 (NEFMC 2020b). The bait fishery is primarily whole little and small-winter skates, and the wing fishery is primarily large-winter and barndoor skates. There are three primary skate ports: Chatham and New Bedford, Massachusetts and Point Judith, Rhode Island; and 11 secondary ports from Massachusetts to New Jersey. The number of vessels landing skate has declined since FY 2011 (567) to 322 in FY 2020. Skate revenue has fluctuated between $5.2-$9.4M annually from FY 2010 to 2020, largely due to changes in wing revenue. Within the directed monkfish gillnet fishery, there is also a seasonal gillnet incidental skate fishery, in which mostly winter skates are sold for lobster bait and as cut wings for processing.

5.2.3 Atlantic Sea Scallops

Life History and Population. Sea scallops, *Placopecten magellanicus,* are distributed in the northwest Atlantic Ocean from Newfoundland to North Carolina, mainly on sand and gravel sediments where bottom temperatures remain below 20º C (68º F). North of Cape Cod, concentrations generally occur in shallow water <40 m (22 fathoms) deep. South of Cape Cod and on Georges Bank, sea scallops typically occur at depths of 25 - 200 m (14 - 110 fathoms), with commercial concentrations generally 35 - 100 m (19 - 55 fathoms). Sea scallops are filter feeders, feeding primarily on phytoplankton, but also on microzooplankton and detritus (Hart & Chute 2004). Sea scallops grow rapidly during the first several years of life. Between ages 3 and 5, they commonly increase 50 - 80% in shell height and quadruple their meat weight. Sea scallops can live more than 20 years. They usually become sexually mature at age 2, but individuals younger than age 4 probably contribute little to total egg production. Sexes are separate and fertilization is external. Spawning usually occurs in late summer and early autumn; spring spawning may also occur, especially in the Mid-Atlantic Bight. Sea scallops are highly fecund; a single large female can release hundreds of millions of eggs annually. Larvae remain in the water column for four to seven weeks before settling to the bottom. Sea scallops attain commercial size at about four to five years old, though historically, three-year-olds were often exploited. Sea scallops have a somewhat uncommon combination of life-history attributes: low mobility, rapid growth, and low natural mortality (NEFSC 2011).

Management and Fishery. The commercial fishery for sea scallops is conducted year-round, primarily using New Bedford style and turtle deflector scallop dredges. A small percentage of the fishery uses otter trawls, mostly in the Mid-Atlantic. The principal U.S. commercial fisheries are in the Mid-Atlantic (from Virginia to Long Island, New York) and on Georges Bank and neighboring areas, such as the Great South Channel and Nantucket Shoals. There is also a small, primarily inshore fishery for sea scallops in the Gulf of Maine. The NEFMC established the Scallop FMP in 1982. The scallop resource was last assessed in 2020, and it was not overfished, and overfishing was not occurring (NEFSC 2020a). Vessels targeting scallops catch monkfish and land them if the price is high enough.

SPINY DOGFISH FOCUS

Note: Based on fishery differences and public input over the years from affected communities, the two Councils take slightly different approaches in describing the interaction of a fishery with non-Target species, so Section 5.2 (monkfish focus) and 5.3 (spiny dogfish focus) differ somewhat in formatting.

Non-Target Species

A) Other Species Caught in Directed Spiny Dogfish Fishing

Due to reduced observer coverage in 2020 and 2021 due to Covid-19, observer data from 2017-2019 still best describe incidental catch in the spiny dogfish fishery. The primary database used to assess discarding is the NMFS Observer Program database, which includes data from trips that had trained observers onboard to document discards. One critical aspect of using this database to describe discards is to correctly define the trips that constitute a given directed fishery. A flexible criteria of what captains initially intend to target, how they may adjust targeting over the course of a trip, and what they actually catch would be ideal but is impracticable.

From 2017-2019, gill net gear accounted for 66%-74% of annual landings. Bottom long line gear accounted for 18-27% of annual landings. All other gears, including bottom trawl, accounted for only 7-8% of annual landings and are not expected to have involved substantial targeting of spiny dogfish given current trip limits (substantial trawling for spiny dogfish would only be expected at higher trip limits given the price of spiny dogfish) and very similar intensity of bottom trawling in the region would be expected to occur even with a complete prohibition on spiny dogfish retention.

From 2017-2019 there were on average 235 observed sink gill net trips (gear # = 100) annually where spiny dogfish accounted for at least 40% of retained catch, and those trips form the basis of the following analysis to determine which other species the directed spiny dogfish fishery interacts with. These trips made 2,540 hauls of which 86% were observed. Hauls may be unobserved for a variety of reasons, for example transfer to another vessel without an observer, observer not on station, haul slipped (dumped) in the water before observing, etc. These observed hauls had a 5% discard rate, most of which was spiny dogfish.

The other species to exceed 1,000 pounds of observed catch per year (used as an ad-hoc minimum indication threshold of potentially more than negligible catch) included (annual observed catch rounded to nearest 1,000 pounds): winter/big skate (83,000 pounds), little skate (8,000 pounds), unknown skates (7,000 pounds), monkfish (6,000 pounds), smooth dogfish (4,000 pounds), cod (3,000 pounds), lobster (3,000 pounds), pollock (3,000 pounds), menhaden (2,000 pounds), haddock (1,000 pounds), and striped bass (1,000 pounds). Of these, only cod is overfished while the Southern New England lobster stock is "depleted with poor prospects of recovery" (https://media.fisheries.noaa.gov/2022-05/2021_SOS_FSSI_and_nonFSSI_Stock_Status_Tables.pdf, http://www.asmfc.org/species/american-lobster). Information on skates, the most frequent bycatch species, can be found above in the section that focuses on bycatch in the monkfish fishery.

From 2017-2019 there were on average 36 observed bottom longline trips (gear # = 010) annually where spiny dogfish accounted for at least 40% of retained catch, and those trips form the basis of the following analysis to determine which other species the directed spiny dogfish fishery interacts with. These trips made 438 hauls of which 99% were observed. Hauls may be unobserved for a variety of reasons, for example transfer to another vessel without an observer, observer not on station, haul slipped (dumped) in the water before observing, etc. These observed hauls had a 10% discard rate, most of which was spiny dogfish.

The other species to exceed 1,000 pounds of observed catch per year (used as an ad-hoc minimum indication threshold of potentially more than negligible catch) included (annual observed catch rounded to nearest 1,000 pounds): golden tilefish (7,000 pounds), barndoor skate (4,000 pounds), smooth dogfish (3,000 pounds), and winter/big skate (2,000 pounds). Of these, none is overfished (https://media.fisheries.noaa.gov/2022-05/2021_SOS_FSSI_and_nonFSSI_Stock_Status_Tables.pdf).

While not extrapolations, the above amounts appear very small relative to annual catch limits for these species, and management of these species already accounts for both landings and discards. Given the apparent low level of interactions with non-target species and ongoing management of those species, their conditions are affected predominantly by other fisheries/issues and should not be affected by this action or the operation of the spiny dogfish fishery more generally.

B. Other Managed Fisheries with Non-directed Spiny Dogfish Catch

Per NMFS' 2020 report on Discard Estimation, Precision, and Sample Size Analyses for 14 Federally Managed Species Groups in the Waters off the Northeastern United States (NMFS 2020), a wide variety of gear types discard spiny dogfish beyond the gear types mentioned above that are responsible for most landings. These other gear types catch most of the species that exist in the region, some of which are in good condition and some of which are in an overfished condition. While this indicates that incidental spiny dogfish catch occurs across a wide variety of other managed fisheries, outside of the directed spiny dogfish fishery, spiny dogfish is often seen as a pest species (e.g. see MAFMC 2017 MSB Fishery Performance Report at http://www.mafmc.org/s/2017-MSB-Fishery-Performance-Report.pdf), and is often entirely discarded (e.g. longfin squid fishery – see MAFMC 2020). As such, changes in spiny dogfish regulations are not expected to change fishing patterns for other fisheries that catch (and mostly

discard) spiny dogfish, or affect any of those managed species in a meaningful way. Further details about the many other managed species in the region and their current stock statuses can be found in their relevant FMPs.

5.3 PROTECTED RESOURCES

5.3.1 Atlantic Sturgeon

The life history traits of Atlantic sturgeon have been documented in historical and contemporary literature (e.g., Dees 1961; Vladykov and Greeley 1963; ASSRT 2007; Hilton et al. 2016; ASMFC 2017). Key characteristics include that spawning occurs in freshwater of a river that is part of an estuary. The early life stages are dependent on and remain in the natal estuary for months to years until they are suitably developed to enter the Atlantic Ocean, thus beginning their seasonal use of both estuarine and marine waters for the remainder of their life. They return to a freshwater tidal reach of a river estuary when they are ready to spawn. Tagging records and the relatively low rate of gene flow reported in population genetic studies provide evidence that Atlantic sturgeon typically return to their natal river to spawn (ASSRT 2007). Adults are long-lived and spawn multiple times within their lifespan but maturity occurs relatively late, anywhere from several years to more than 20 years (ASSRT 2007; Hilton et al. 2016). The age at which they mature and the time of year when they spawn varies among the river populations.

Atlantic sturgeons travel long distances in marine waters and aggregate in both ocean and estuarine areas at certain times of the year. The marine and estuarine range of all five Atlantic sturgeon DPSs as well as the two Canadian populations overlap and extends from Canada through Cape Canaveral, Florida (ASSRT 2007; Wirgin et al. 2015; Kazyak et al. 2021). Their use of the marine environment is characterized by seasonal differences in distribution with a presence in more nearshore waters in the spring, particularly near coastal estuaries, and movement to more offshore waters in the fall where the fish generally occur throughout the winter (Erickson et al. 2011; Ingram et al. 2019; Rothermel et al. 2020).

The Action Plan to Reduce Atlantic Sturgeon Bycatch in Federal Large Mesh Gillnet Fisheries (NOAA 2022) described the movements of Atlantic sturgeon in marine waters and the habitats used in greater detail as follows.

Erickson et al. (2011) provided some of the most detailed information for Atlantic sturgeon in the marine environment based on data from pop-up satellite archival tags of 15 adult Atlantic sturgeon that were captured in the freshwater reach of the Hudson River. Upon leaving the Hudson River, all of the fish used a similar depth range in summer and fall, and 13 of the 15 continued to have a similar depth pattern in the winter through spring. Mean-daily depths typically ranged from 5 to 35 m and never exceeded 40 m. The sturgeons occupied the deepest waters during winter and early spring (December–March) and shallowest waters during late spring to early fall (May– September). Mean-monthly water temperatures ranged from 8.3°C in February to 21.6°C in August for the 13 fish that exhibited similar depth distributions. Of the remaining two fish, during December and January, one sturgeon occurred at shallower depths (5-15 m) and in warmer waters, while the second fish occurred at deeper depths (35-70 m) and in colder waters. Nearly all of the sturgeon stayed within the Mid-Atlantic Bight before their tags were released. However, the sturgeon did not appear to move to a specific marine area where the fish reside throughout the winter. Instead, the sturgeon occurred within different areas of the Mid-Atlantic Bight and at different depths, occupying in deeper and more southern waters in the winter months and more northern and shallow waters in the summer months with spring and fall being transition periods. Three subsequent studies, Breece et al. (2018), Ingram et al. (2019), and Rothermel et al. (2020), using

thousands of detections of acoustically-tagged Atlantic sturgeon within receiver arrays off Long Island, New Jersey, Delaware, and Maryland demonstrated that depth and water temperature are key variables associated with sturgeon presence and distribution in Mid-Atlantic marine waters. All three studies provided further evidence of seasonal inshore and offshore movements with sturgeon occupying shallower waters closer to the coast in the spring and more offshore waters in the late fall-winter. Finally, like Erickson et al., both the Ingram et al. study and the Rothermel et al. study found very low residency time for individual Atlantic sturgeon within the receiver arrays for the respective studies. This suggests that sturgeon aggregation areas in the marine environment are not areas where individual sturgeon reside for extended periods of time but are used by many sturgeon for what they provide in terms of the most suitable environmental conditions as the sturgeon move through the marine environment.

Available information suggests a similar pattern for Atlantic sturgeon distribution and occurrence within the Gulf of Maine. Altenritter et al. (2017), Novak et al. (2017), and Wippelhauser et al. (2017) provide the most recent, published literature describing Atlantic sturgeon movements within and beyond the Gulf of Maine. Each of the studies used telemetry detections of acoustically-tagged Atlantic sturgeon, many of which were initially captured in a Gulf of Maine river, suggesting that they were more likely to belong to the Gulf of Maine DPS. Their results demonstrate that the sturgeon primarily occurred in the Gulf of Maine, use more offshore waters in the fall and winter, and make seasonal coastal movements between estuaries. Some of the estuaries are known aggregation areas where sturgeon forage, and one (i.e., the Kennebec River Estuary) is the only known spawning river for the Gulf of Maine DPS.

A comprehensive analysis of Atlantic sturgeon stock composition coastwide provides further evidence that the sturgeon's natal origin influences the distribution of Atlantic sturgeon in the marine environment. While Atlantic sturgeon that originate from each of the five DPSs and from the Canadian rivers were represented in the 1,704 samples analyzed for the study, there were statistically significant differences in the spatial distribution of each DPS, and individuals were most likely to be assigned to a DPS in the same general region where they were collected (Kazyak et al. 2021). The results support the findings of previous genetic analyses that Atlantic sturgeon of a particular DPS can occur throughout its marine range but are most prevalent in the broad region of marine waters closest to the DPSs natal river(s). In comparison to its total marine range, Atlantic sturgeon belonging to: the Gulf of Maine DPS are most prevalent in the Gulf of Maine; the New York Bight DPS are most prevalent in the Mid-Atlantic Bight and are the most prevalent of all of the DPSs in the Mid-Atlantic Bight; and, the Chesapeake Bay DPS are most prevalent in the Mid-Atlantic Bight, particularly from around Delaware to Cape Hatteras.

The seasonal movements of Atlantic sturgeon are not absolute and exceptions to the general movement pattern occur. For example, two adults were detected in the Appomattox River, Virginia during the winter (C. Hager, Chesapeake Scientific, pers. comm.). Nevertheless, multiple studies using a variety of tracking methods demonstrate that Atlantic sturgeon adults and subadults typically move from coastal estuaries to marine waters in the fall and occur there throughout the winter before moving to more inshore marine waters in the spring.

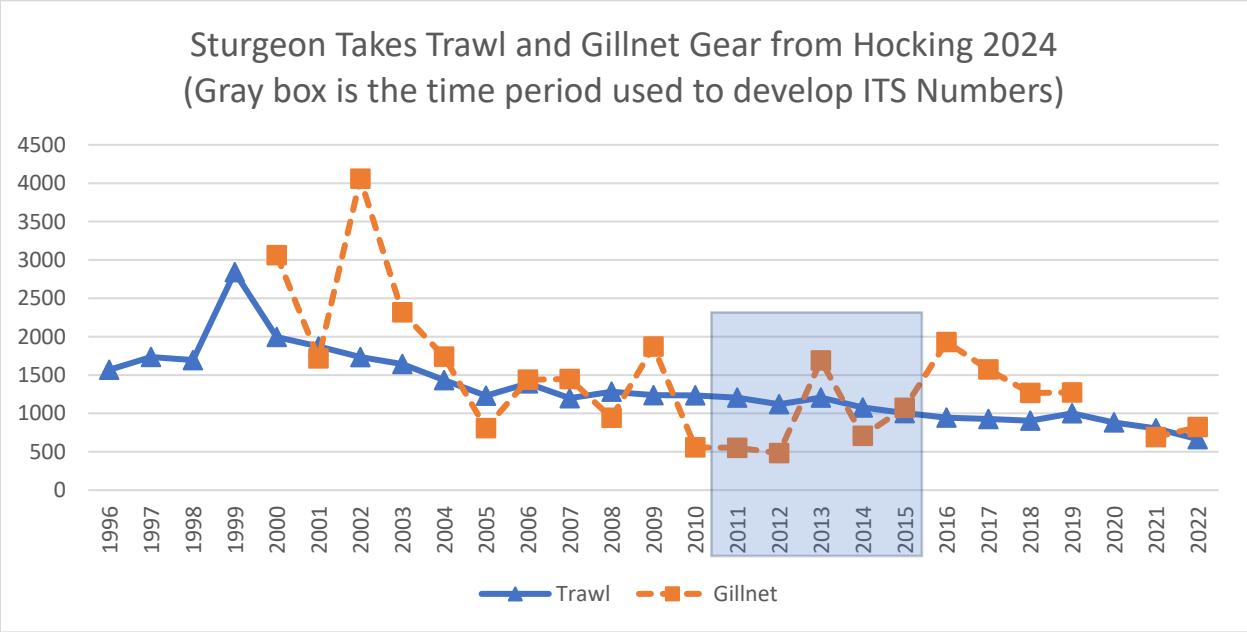
All of the Atlantic sturgeon DPSs are either at risk of extinction (i.e., those DPSs listed as endangered) or at risk of becoming endangered (i.e., the Gulf of Maine DPS) due to multiple threats that include the loss and alteration of habitat, and anthropogenic mortality. In particular, based on estimates of Atlantic sturgeon bycatch (Stein et al. 2004b; ASMFC 2007), NOAA Fisheries concluded that bycatch of Atlantic sturgeon in commercial gillnet and bottom trawl fisheries was a threat (77 FR 5880 and 77 FR 5914; February 6, 2012). NOAA Fisheries also noted in the listing determinations that there were no estimates of total abundance for any of the five DPSs but that abundance was likely orders of magnitude lower than historical abundance given the available information for adult spawning abundance and natal juvenile

abundance for some DPSs and given the reduced number of known spawning populations compared to historical records.

The ASMFC's most recent stock assessment for Atlantic sturgeon concluded that some of the DPSs have likely increased in abundance since closure of the Atlantic sturgeon fisheries in state and federal waters (ASMFC 2017). However, a lack of data hampered their efforts to assess the status of Atlantic sturgeon and there was considerable uncertainty given the data available. For example, the Stock Assessment describes that there is a relatively low probability (37 percent) that abundance of the Chesapeake Bay DPS has increased since the implementation of the 1998 fishing moratorium but, adds further clarification that it was not clear if the percent probability for the trend in abundance was a reflection of the actual trend in abundance or of the underlying data quality for the DPS. Similarly, the Stock Assessment concludes that there is a 51-percent probability that abundance of the Gulf of Maine DPS has increased since implementation of the 1998 fishing moratorium but also a relatively high likelihood (74-percent probability) that mortality for the Gulf of Maine DPS exceeds the mortality threshold used for the Stock Assessment. By comparison, more data is available for the New York Bight DPS and the Stock Assessment concludes that there is a relatively high probability (75 percent) that the New York Bight DPS abundance has increased since the implementation of the 1998 fishing moratorium, and a 69-percent probability that mortality for the New York Bight DPS does not exceed the mortality threshold used for the assessment. However, the Stock Assessment also describes that the DPS-level estimates of mortality from the tagging model had wide credible intervals, so one cannot conclude with statistical certainty whether any of the DPS-level mortality estimates are above or below its respective thresholds. New information available since the ESA-listing of the five DPSs was provided in the Stock Assessment as well as in the NOAA Fisheries 5-year reviews for each DPS. Based on the new and existing information, NOAA Fisheries concluded that the New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs should remain listed as endangered, and the Gulf of Maine DPS should remain listed as threatened.

The ASMFC is updating its Atlantic sturgeon assessment in 2024 and that information will be considered in the reinitiated Biological Opinion.

Figure 19. Total Estimated Gillnet Takes.



Source: Hocking 2024, available via Tables 3/4 at https://www.mafmc.org/actions/sturgeon-bycatch-framework . Years used for ITS highlighted (2011-2015)

5.3.2 Protected Species Present in the Area

The Monkfish FMP describes management of the monkfish fishery from Maine to North Carolina. The Spiny Dogfish FMP describes management of the spiny dogfish fishery coastwide. Although spiny dogfish are most abundant from Nova Scotia to Cape Hatteras, North Carolina, we consider here the protected species that occur throughout the coastwide management area of the spiny dogfish fishery.

Numerous protected species occur in the combined affected environment of the Monkfish FMP and of the Spiny Dogfish FMP (Table 8) and have the potential to be impacted by the proposed action (i.e., there have been observed/documented interactions in the fisheries or with gear types like those used in the fisheries (bottom trawl, gillnet gear)). These species are under NMFS jurisdiction and are afforded protection under the Endangered Species Act (ESA) of 1973 and/or the Marine Mammal Protection Act (MMPA) of 1972.

Cusk are a NMFS "candidate species" under the ESA. Candidate species are those petitioned species for which NMFS has determined that listing may be warranted under the ESA and those species for which NMFS has initiated an ESA status review through an announcement in the Federal Register. If a species is proposed for listing the conference provisions under Section 7 of the ESA apply (50 CFR 402.10); however, candidate species receive no substantive or procedural protection under the ESA. As a result, cusk will not be discussed further in this and the following sections; however, NMFS recommends that project proponents consider implementing conservation actions to limit the potential for adverse effects on candidate species from any proposed action. More information on cusk is at: https://www.fisheries.noaa.gov/species/cusk.

Table 8. Species protected under the ESA and/or MMPA that may occur in the monkfish fishery affected environment.

Species	Status	Potentially impacted by this action?
Cetaceans		
North Atlantic right whale (Eubalaena glacialis)	***Endangered***	***Yes***
Humpback whale, West Indies DPS (*Megaptera novaeangliae)*	Protected (MMPA)	Yes
Fin whale (Balaenoptera physalus)	***Endangered***	***Yes***
Sei whale (Balaenoptera borealis)	***Endangered***	***Yes***
Blue whale (Balaenoptera musculus)	***Endangered***	***No***
Sperm whale (Physeter macrocephalus	***Endangered***	***Yes***
Minke whale (*Balaenoptera acutorostrata*)	Protected (MMPA)	Yes
Pilot whale (Globicephala spp.)[2]	Protected (MMPA)	Yes
Pygmy sperm whale (*Kogia breviceps*)	Protected (MMPA)	No
Dwarf sperm whale (*Kogia sima*)	Protected (MMPA)	No
Risso's dolphin (*Grampus griseus*)	Protected (MMPA)	Yes
Atlantic white-sided dolphin (*Lagenorhynchus acutus*)	Protected (MMPA)	Yes
Short Beaked Common dolphin (*Delphinus delphis*)	Protected (MMPA)	Yes
Atlantic Spotted dolphin (*Stenella frontalis*)	Protected (MMPA)	No
Striped dolphin (*Stenella coeruleoalba*)	Protected (MMPA)	No
Bottlenose dolphin (Tursiops truncatus)[3]	***Protected (MMPA)***	***Yes***
Harbor porpoise (*Phocoena phocoena*)	Protected (MMPA)	Yes

Species	Status	Potentially impacted by this action?
Sea Turtles		
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered	Yes
Kemp's ridley sea turtle (*Lepidochelys kempii*)	Endangered	Yes
Green sea turtle, North Atlantic DPS (*Chelonia mydas*)	Threatened	Yes
Loggerhead sea turtle (*Caretta caretta*), Northwest Atlantic Ocean DPS	Threatened	Yes
Hawksbill sea turtle (*Eretmochelys imbricate*)	Endangered	No
Fish		
Shortnose sturgeon (*Acipenser brevirostrum*)	Endangered	No
Giant manta ray (*Manta birostris)*	Threatened	Yes
Oceanic whitetip shark (*Carcharhinus longimanus*)	Threatened	No
Atlantic salmon (*Salmo salar*)	Endangered	Yes
Atlantic sturgeon *(Acipenser oxyrinchus)*		
Gulf of Maine DPS	Threatened	Yes
New York Bight DPS, Chesapeake Bay DPS, Carolina DPS & South Atlantic DPS	Endangered	Yes
Cusk (*Brosme brosme)*	Candidate	Yes
Pinnipeds		
Harbor seal (*Phoca vitulina*)	Protected (MMPA)	Yes
Gray seal (*Halichoerus grypus*)	Protected (MMPA)	Yes
Harp seal (*Phoca groenlandicus*)	Protected (MMPA)	Yes
Hooded seal (*Cystophora cristata*)	Protected (MMPA)	Yes
Critical Habitat		
North Atlantic Right Whale	ESA Designated	No
Northwest Atlantic DPS of Loggerhead Sea Turtle	ESA Designated	No
Johnson's Sea Grass	ESA Designated	No
Elkhorn and Staghorn corals	ESA Designated	No
Smalltooth Sawfish (U.S. DPS)	ESA Designated	No

Note: Marine mammal species italicized and in bold are considered MMPA strategic stocks, a marine mammal stock for which: (1) the level of direct human-caused mortality exceeds the potential biological removal level; (2) based on the best available scientific information, is declining and is likely to be listed as a threatened species under the ESA within the foreseeable future; and/or (3) is listed as a threatened or endangered species under the ESA, or is designated as depleted under the MMPA (Sect. 3, MMPA of 1972).

[2] There are 2 species of pilot whales: short finned (*G. melas melas*) and long finned (*G. macrorhynchus*). Due to the difficulties in identifying the species at sea, they are often just referred to as *Globicephala spp*.

[3] This includes the Western North Atlantic Offshore, Northern Migratory Coastal, and Southern Migratory Coastal Stocks of Bottlenose Dolphins. See NMFS Marine Mammal Stock Assessment Reports (SARs) for the Atlantic Region for further details.

5.3.3 Species and Critical Habitat Unlikely to be Impacted by the Proposed Action

Based on available information, it has been determined that this action is unlikely to impact multiple ESA listed and/or MMPA protected species or any designated critical habitat (Table 8). This determination has been made because either the occurrence of the species is not known to overlap with the area primarily affected by the action and/or based on the most recent ten years of observer, stranding, and/or marine mammal serious injury and mortality reports, there have been no observed or documented interactions between the species and the primary gear type (i.e., bottom trawl and gillnet) used to prosecute the

monkfish fishery or the spiny dogfish fishery (Greater Atlantic Region (GAR) Marine Animal Incident Database, unpublished data; NMFS Marine Mammal Stock Assessment Reports (SARs) for the Atlantic Region; NMFS NEFSC observer/sea sampling database, unpublished data; NMFS NEFSC marine mammal (small cetacean, pinniped, baleen whale) serious injury and mortality Reference Documents, Publications, or Technical Memoranda; MMPA List of Fisheries (LOF); NMFS 2021a).[6] In the case of critical habitat, this determination has been made because the action will not affect the essential physical and biological features of critical habitat identified in Table 8 and therefore, will not result in the destruction or adverse modification of any species critical habitat (NMFS 2021a).

The protected species and critical habitat that occur only within the extended range of the spiny dogfish management area (e.g., Hawksbill sea turtle and critical habitat for Johnson's sea grass, Smalltooth sawfish, Elkhorn and Staghorn corals) are unlikely to be impacted by this action (Table 7). Therefore, for this action, the combined affected environment is the same even though the management areas for the monkfish fishery and the spiny dogfish fishery are not the same.

5.3.4 Species Potentially Impacted by the Proposed Action

Table 8 lists protected species of sea turtle, marine mammal, and fish species present in the affected environment of the monkfish and spiny dogfish fisheries, and that may also be impacted by the operation of these fisheries; that is, have the potential to become entangled or bycaught in the fishing gear used to prosecute the fisheries. To aid in the identification of MMPA protected species potentially impacted by the action, NMFS Marine Mammal SARs for the Atlantic Region, MMPA List of Fisheries (LOF), NMFS (2021b) , NMFS NEFSC observer/sea sampling database (unpublished data), and NMFS NEFSC marine mammal (small cetacean, pinniped, baleen whale) serious injury and mortality Reference Documents, Publications, or Technical Memoranda were referenced.

To help identify ESA listed species potentially impacted by the action, we queried the NMFS NEFSC observer/sea sampling (2010-2019), Sea Turtle Disentanglement Network (2010-2019), and the GAR Marine Animal Incident (2010-2019) databases for interactions, and reviewed the May 27, 2021, Biological Opinion (Opinion)[7] issued by NMFS. The 2021 Opinion considered the effects of the NMFS' authorization of ten fishery management plans (FMP),[8] including the Monkfish FMP and the Spiny Dogfish FMP on ESA-listed species and designated critical habitat. The Opinion determined that the authorization of ten FMPs may adversely affect, but is unlikely to jeopardize, the continued existence of North Atlantic right, fin, sei, or sperm whales; the Northwest Atlantic Ocean distinct population segment (DPS) of loggerhead, leatherback, Kemp's ridley, or North Atlantic DPS of green sea turtles; any of the five DPSs of Atlantic sturgeon; GOM DPS Atlantic salmon; or giant manta rays. The Opinion also concluded that the proposed action is unlikely to adversely affect designated critical habitat for North Atlantic right whales, the Northwest Atlantic Ocean DPS of loggerhead sea turtles, U.S. DPS of smalltooth sawfish, Johnson's seagrass, or elkhorn and staghorn corals. An Incidental Take Statement (ITS) was issued in the Opinion. The ITS includes reasonable and prudent measures and their implementing terms and conditions, which NMFS determined are necessary or appropriate to minimize impacts of the incidental take in the fisheries assessed in this Opinion.

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[6] For marine mammals protected under the MMPA, the most recent 10 years of observer, stranding, and/or marine mammal serious injury and mortality reports are from 2010-2019. For ESA listed species, information on observer or documented interactions with fishing gear is from 2010-2019.

[7] NMFS' May 27, 2021, Biological Opinion on the 10 FMPs is at: https://www.fisheries.noaa.gov/resource/document/biological-opinion-10-fishery-management-plans

[8] The ten FMPs considered in the May 27, 2021, Biological Opinion include: American Lobster, Atlantic Bluefish, Atlantic Deep-Sea Red Crab, Mackerel/Squid/Butterfish, Monkfish, Northeast Multispecies, Northeast Skate Complex, Spiny Dogfish, Summer Flounder/Scup/Black Sea Bass, and Jonah Crab.

As the primary concern for both MMPA protected and ESA listed species is the potential for the monkfish fishery and the spiny dogfish fishery to interact (e.g., bycatch, entanglement) with these species it is necessary to consider (1) species occurrence in the affected environment of each of these fisheries and how the fisheries will overlap in time and space with this occurrence; and (2) data and observed records of protected species interaction with particular fishing gear types, to understand the potential risk of an interaction. Information on species occurrence in the affected environment of the monkfish and spiny dogfish fisheries and on protected species interactions with specific fishery gear is provided below.

5.3.4.1 Sea Turtles

Below is a summary of the status and trends, and the occurrence and distribution of sea turtles in the affected environment of the monkfish fishery and spiny dogfish fishery. More information on the range-wide status of affected sea turtles species, and their life history is in several published documents, including NMFS (2021a); sea turtle status reviews and biological reports (Conant *et al.* 2009; Hirth 1997; NMFS & USFWS 1995; 2007a; b; 2013; TEWG 1998; 2000; 2007; 2009), and recovery plans for the loggerhead (Northwest Atlantic DPS) sea turtle (NMFS & USFWS 2008), leatherback sea turtle (NMFS & USFWS 1992; 1998b; 2020), Kemp's ridley sea turtle (NMFS & USFWS 2011), and green sea turtle (NMFS & USFWS 1991; 1998a).

Status and Trends.

Four sea turtle species have the potential to be impacted by the proposed action: Northwest Atlantic Ocean DPS of loggerhead, Kemp's ridley, North Atlantic DPS of green, and leatherback sea turtles (Table 8). Although stock assessments and similar reviews have been completed for sea turtles none have been able to develop a reliable estimate of absolute population size. As a result, nest counts are used to inform population trends for sea turtle species.

For the Northwest Atlantic Ocean DPS of loggerhead sea turtles, there are five unique recovery units that comprise the DPS. Nesting trends for each of these recovery units are variable; however, Florida index nesting beaches comprise most of the nesting in the DPS (https://myfwc.com/research/wildlife/sea-turtles/nesting/beach-survey-totals/). Overall, short-term trends for loggerhead sea turtles (Northwest Atlantic Ocean DPS) have shown increases; however, over the long-term the DPS is considered stable (NMFS 2021a).

For Kemp's ridley sea turtles, from 1980-2003, the number of nests at three primary nesting beaches (Rancho Nuevo, Tepehuajes, and Playa Dos) increased 15% annually (Heppell *et al.* 2005a); however, due to recent declines in nest counts, decreased survival of immature and adult sea turtles, and updated population modeling, this rate is not expected to continue and therefore, the overall trend is unclear (Caillouet *et al.* 2018; NMFS & USFWS 2015). In 2019, there were 11,090 nests, a 37.61% decrease from 2018 and a 54.89% decrease from 2017, which had the highest number (24,587) of nests; the reason for this recent decline is uncertain (NMFS 2021a). Given this and continued anthropogenic threats to the species, according to NMFS (2021a), the species resilience to future perturbation is low.

The North Atlantic DPS of green sea turtle, overall, is showing a positive trend in nesting; however, increases in nester abundance for the North Atlantic DPS in recent years must be viewed cautiously as the datasets represent a fraction of a green sea turtle generation which is between 30 and 40 years (Seminoff *et al.* 2015). While anthropogenic threats to this species continue, considering the best available information on the species, NMFS (2021a), concluded that the North Atlantic DPS seems somewhat resilient to future perturbations.

Leatherback turtle nesting in the Northwest Atlantic is showing an overall negative trend, with the most notable decrease occurring during the most recent time frame of 2008 to 2017 (Northwest Atlantic Leatherback Working Group 2018). The leatherback status review in 2020 concluded that leatherbacks are exhibiting an overall decreasing trend in annual nesting activity (NMFS & USFWS 2020). Given

continued anthropogenic threats to the species, according to NMFS (2021a), the species' resilience to additional perturbation both within the Northwest Atlantic and worldwide is low.

Occurrence and Distribution.

Hard-shelled sea turtles. In U.S. Northwest Atlantic waters, hard-shelled turtles commonly occur throughout the continental shelf from Florida to Cape Cod, MA, although their presence varies with the seasons due to changes in water temperature (Braun-McNeill *et al.* 2008; Braun & Epperly 1996; Epperly *et al.* 1995a; Epperly *et al.* 1995b). As coastal water temperatures warm in the spring, loggerheads begin to migrate to inshore waters of the southeast United States and also move up the Atlantic Coast (Braun-McNeill & Epperly 2002; Epperly *et al.* 1995a; Epperly *et al.* 1995b; Epperly *et al.* 1995c; Griffin *et al.* 2013; Morreale & Standora 2005; NMFS & USFWS 2020), occurring in Virginia foraging areas as early as late April and on the most northern foraging grounds in the GOM in June (Shoop & Kenney 1992). The trend is reversed in the fall as water temperatures cool. The large majority leave the GOM by September, but some remain in Mid-Atlantic and Northeast areas until late fall (i.e., November). By December, sea turtles have migrated south to waters offshore of North Carolina, particularly south of Cape Hatteras, and further south, although it should be noted that hard-shelled sea turtles can occur year-round in waters off Cape Hatteras and south (Epperly *et al.* 1995a; Griffin *et al.* 2013; Hawkes *et al.* 2011; Shoop & Kenney 1992).

Leatherback sea turtles. Leatherbacks, a pelagic species, are known to use coastal waters of the U.S. continental shelf and to have a greater tolerance for colder water than hard-shelled sea turtles (Dodge *et al.* 2014; Eckert *et al.* 2006; James *et al.* 2005; Murphy *et al.* 2006; NMFS & USFWS 2013). Leatherback sea turtles engage in routine migrations between northern temperate and tropical waters (Dodge *et al.* 2014; James *et al.* 2005; James *et al.* 2006; NMFS & USFWS 1992). They are found in more northern waters (i.e., GOM) later in the year (i.e., similar time frame as hard-shelled sea turtles), with most leaving the Northwest Atlantic shelves by mid-November (Dodge *et al.* 2014; James *et al.* 2005; James *et al.* 2006).

5.3.4.2 Large Whales

Status and Trends.

Six large whale species have the potential to be impacted by the proposed action: humpback, North Atlantic right, fin, sei, sperm, and minke whales (Table 9). Large whale stock assessment reports covering the period of 2010-2019, indicate a decreasing trend for the North Atlantic right whale population; however, for fin, humpback, minke, sperm, and sei whales, it is unknown what the population trajectory is as a trend analysis has not been conducted. The NMFS Marine Mammal SARs for the Atlantic Region has more information on the status of humpback, North Atlantic right, fin, sei, sperm, and minke whales.

Occurrence and Distribution.

As in Table 9, North Atlantic right, humpback, fin, sei, sperm, and minke whales occur in the Northwest Atlantic Ocean. As large whales may be present in these waters throughout the year, the monkfish fishery and spiny dogfish fishery are likely to co-occur with large whales in the affected area for at least some part of each year. To further help understand how the monkfish fishery and the spiny dogfish fishery overlap in time and space with large whales, Table 8 has an overview of species occurrence and distribution in the affected environment. More information on North Atlantic right, humpback, fin, sei, sperm, and minke whales is in: NMFS Marine Mammal SARs for the Atlantic Region.

Table 9. Large whale occurrence, distribution, and habitat use in the affected environment.

Species	Occurrence/Distribution/Habitat Use in the Affected Environment
North Atlantic Right Whale	● Predominantly occupy waters of the continental shelf, but based on passive acoustic and telemetry data, are also known to make lengthy excursions into deep waters off the shelf. ● Visual and acoustic data demonstrate broad scale, year-round presence along the U.S. eastern seaboard (e.g., GOM, New Jersey, and Virginia). ● Surveys have demonstrated the existence of several areas where North Atlantic right whales congregate seasonally, including Cape Cod Bay; Massachusetts Bay; and the continental shelf south of New England. Although whales can be found consistently in certain locations throughout their range, there is high inter-annual variability in right whale use of some habitats. Since 2010, acoustic and visual surveys indicate a shift in habitat use patterns, including: > Fewer individuals are detected in the Great South Channel; > increase in the number of individuals using Cape Cod Bay (i.e., during the expected late winter and early spring foraging period and during the 'off season' period of summer and fall); > apparent abandonment of central GOM in the winter; and, > Large increase in the numbers of whales detected in a region south of Martha's Vineyard and Nantucket Islands (i.e., during the expected late winter and early spring foraging period and during the 'off season' period of summer and fall). > Passive acoustic monitoring suggests a shift to a year-round presence in the Mid-Atlantic, including year-round detections in the New York Bight with the highest presence between late February and mid-May in the shelf zone and nearshore habitat).
Humpback	• Distributed throughout all continental shelf waters of the Mid-Atlantic (SNE included), GOM, and GB throughout the year. • New England waters (GOM and GB) = Foraging Grounds (~March- November); however, acoustic detections of humpbacks indicate year-round presence in New England waters, including the waters of Stellwagen Bank. • Mid-Atlantic waters: Increasing evidence that mid-Atlantic areas are becoming an important habitat for juvenile humpback whales. • Since 2011, increased sightings of humpback whales in the New York-New Jersey Harbor Estuary, in waters off Long Island, and along the shelf break east of New York and New Jersey. • Increasing visual and acoustic evidence of whales remaining in mid- and high-latitudes throughout the winter (e.g., Mid- Atlantic: waters near Chesapeake and Delaware Bays, peak presence about January through March; Massachusetts Bay: peak presence about March-May and September-December).
Fin	• Distributed throughout all continental shelf waters of the GOM to Mid-Atlantic; • Recent sighting data show evidence that, while densities vary seasonally, fin whales are present in every season throughout most of the EEZ north of 30°N. • New England waters (GOM and GB) = Major Foraging Ground
Sei	• Primarily found in deep waters along the shelf edge, shelf break, and ocean basins between banks.; however incursions into shallower, shelf waters do occur (e.g., Stellwagen Bank, Great South Channel, waters south of Nantucket, Georges Bank). • Spring through summer, sightings concentrated along the northern, eastern (into Northeast Channel) and southwestern (in the area of Hydrographer Canyon) edge of Georges Bank, and south of Nantucket, MA. • Recent acoustic detections peaked in northern latitudes in the summer, indicating feeding grounds ranging from Southern New England through the Scotian Shelf. • Persistent year-round detections in Southern New England and the New York Bight indicate this area to be an important region for sei whales.

Species	Occurrence/Distribution/Habitat Use in the Affected Environment
	• The wintering habitat remains largely unknown. Passive acoustic monitoring conducted in 2015-2016 off Georges Bank detected sei whales calls from late fall through the winter along the southern Georges Bank region (off Heezen and Oceanographer Canyons).
Sperm	• Distributed on the continental shelf edge, continental slope, and into mid-ocean regions. • Seasonal Occurrence in the U.S. EEZ: >**Winter**: concentrated east and northeast of Cape Hatteras; >**Spring**: center of distribution shifts northward to east of Delaware and Virginia, and is widespread throughout the central portion of the mid-Atlantic bight and the southern portion of Georges Bank; >**Summer**: similar distribution to spring, but also includes the area east and north of Georges Bank and into the Northeast Channel region, and the continental shelf (inshore of the 100-m isobath) south of New England; and, >**Fall**: occur in high levels south of New England, on the continental shelf. Also occur along continental shelf edge in the mid-Atlantic bight.
Minke	• Widely distributed within the U.S. EEZ. • Spring to Fall: widespread (acoustic) occurrence on the continental shelf; most abundant in New England waters during this period of time. • September to April: high (acoustic) occurrence in deep-ocean waters.
Note: SNE=Southern New England; GOM=Gulf of Maine; GB=Georges Bank *Sources:* Baumgartner et al. (2011; 2007); Baumgartner and Mate (2005); Bort et al. (2015); Brown et al. (Brown *et al.* 2018; 2002); CETAP (1982); Charif et al. (2020); Cholewiak et al. (2018); Clapham et al. (1993); Clark and Clapham (2004); Cole et al. (2013); Davis et al. (2017; 2020); Ganley et al. (2019); Good (2008); Hain et al. (1992); Hamilton and Mayo (1990); Hayes et al. (2017; 2018; 2019; 2020; 2021; 2022); Kenney et al. (1986; 1995); Khan et al. (2010; 2011; 2012; 2009); Kraus et al. (2016); Leiter et al. (2017); Mate et al. (1997); Mayo et al. (2018); McLellan et al. (2004); Moore et al. (2021); Morano et al. (2012); Muirhead et al. (2018); Murray et al. (2013); NMFS (1991; 2005; 2010; 2011; 2021a; b) 2012; 2015; NOAA (2008); Pace and Merrick (2008); Palka et al. (2017); Palka (2020)2020; Payne et al. (1984; 1990); Pendleton et al. (2009); Record et al. (2019); Risch et al. (2013); Robbins (2007); Roberts et al. (2016); Salisbury et al. (2016); Schevill et al. (1986); Stanistreet et al. (2018); Stone et al. (2017); Swingle et al. (1993); Vu et al. (2012); Watkins and Schevill (1982); Whitt et al. (2013); Winn et al. (1986); 81 FR 4837 (January 27, 2016); 86 FR 51970 (September 17, 2021).	

5.3.4.3 Small Cetaceans

Status and Trends. Risso's, white-sided, short beaked common, and bottlenose dolphins (Western North Atlantic Offshore, Northern Migratory Coastal, and Southern Migratory Coastal stocks); long and short – finned pilot whales; and harbor porpoise are identified as having the potential to be impacted by the proposed action (Table 10). The latest stock assessment (Hayes *et al.* 2021) indicates that as a trend analysis has not been conducted for Risso's, white-sided, short-beaked common dolphins; long-finned pilot whales; or harbor porpoise, the population trajectory for these species is unknown. For short-finned pilot whales a generalized linear model indicated no significant trend in the abundance estimates (Hayes *et al.* 2022). For the Western North Atlantic Offshore stock, review of the most recent information on the stock shows no statistically significant trend in population size for this species; however, the high level of uncertainty in the estimates limits the ability to detect a statistically significant trend. Regarding the Northern and Southern Migratory Coastal stocks (both considered a strategic stock under the MMPA), the most recent analysis of trends in abundance suggests a probable decline in stock size between 2010–2011 and 2016, concurrent with a large unusual mortality event (UME) in the area; however, there is limited power to evaluate trends given uncertainty in stock distribution, lack of precision in abundance estimates, and a limited number of surveys (Hayes *et al.* 2021).

Occurrence and Distribution. Atlantic white sided dolphins, short and long finned pilot whales, Risso's dolphins, short beaked common dolphins, harbor porpoise, and several stocks of bottlenose dolphins are

found throughout the year in the Northwest Atlantic Ocean (see NMFS Marine Mammal SARs for the Atlantic Region). Within this range, however, there are seasonal shifts in species distribution and abundance. To further assist in understanding how the monkfish fishery and the spiny dogfish fishery overlap in time and space with the occurrence of small cetaceans, Table 10 gives an overview of species occurrence and distribution in the affected environment of the monkfish and spiny dogfish fisheries for this action. More information on small cetacean occurrence and distribution in the Northwest Atlantic is in the NMFS Marine Mammal SARs for the Atlantic Region.

Table 10. Small cetacean occurrence and distribution in the monkfish fishery affected environment.

Species	Occurrence ad Distribution in the Affected Environment
Atlantic White Sided Dolphin	• Distributed throughout the continental shelf waters (primarily to 100 m) of the Mid-Atlantic (north of 35°N), SNE, GB, and GOM; however, most common in continental shelf waters from Hudson Canyon (~39°N) to GB, and into the GOM. • **January-May**: low densities found from GB to Jeffreys Ledge. • **June-September**: Large densities found from GB, through the GOM. • **October-December**: intermediate densities found from southern GB to southern GOM. • South of GB (SNE and Mid-Atlantic), particularly around Hudson Canyon, low densities found year-round, • Virginia (VA) and North Carolina (NC) waters represent southern extent of species range during winter months.
Short Beaked Common Dolphin	• Regularly found throughout the continental shelf-edge-slope waters (primarily between the 100-2,000 m isobaths) of the Mid-Atlantic, SNE, and GB (esp. in Oceanographer, Hydrographer, Block, and Hudson Canyons). • Less common south of Cape Hatteras, NC, although schools have been reported as far south as the Georgia/South Carolina border. • **January-May**: occur from waters off Cape Hatteras, NC, to GB (35° to 42°N). • **Mid-summer-autumn**: Occur in the GOM and on GB; *Peak abundance* found on GB in the autumn.
Risso's Dolphin	• **Spring through fall**: Distributed along the continental shelf edge from Cape Hatteras, NC, to GB. • **Winter**: distributed in the Mid-Atlantic Bight, extending into oceanic waters. • Rarely seen in the GOM; primarily a Mid-Atlantic continental shelf edge species (can be found year-round).
Harbor Porpoise	• Distributed throughout the continental shelf of the Mid-Atlantic, SNE, GB, and GOM. • **July-September**: Concentrated in the northern GOM (waters <150 m); low numbers can be found on GB. • **October-December**: widely dispersed in waters from New Jersey (NJ) to Maine (ME); seen from the coastline to deep waters (>1,800 m). • **January-March**: intermediate densities in waters off NJ to NC; low densities found in waters off New York (NY) to GOM. • **April-June**: widely dispersed from NJ to ME; seen from the coastline to deep waters (>1,800 m). • Passive acoustic monitoring indicates regular presence from January through May offshore of Maryland.
Bottlenose Dolphin	**Western North Atlantic Offshore Stock** • Distributed primarily along the outer continental shelf and continental slope in the Northwest Atlantic from GB to Florida (FL). • Depths of occurrence: ≥40 m **Western North Atlantic Northern Migratory Coastal Stock** • Most common in coastal waters <20 m deep.

Species	Occurrence ad Distribution in the Affected Environment
	• Warm water months (e.g., July-August): distributed from the coastal waters from the shoreline to about 25-m isobaths between the mouth of the Chesapeake Bay and Long Island, NY. • Cold water months (e.g., January-March): stock occupies coastal waters from Cape Lookout, NC, to the NC/VA border. **Western North Atlantic Southern Migratory Coastal Stock** • Most common in coastal waters <20 m deep. • **October-December**: appears stock occupies waters of southern NC (south of Cape Lookout) • **January-March**: appears stock moves as far south as northern FL. • **April-June**: stock moves north to waters of NC. • **July-August**: stock is presumed to occupy coastal waters north of Cape Lookout, NC, to the eastern shore of VA (as far north as Assateague).
Pilot Whales: ***Short- and Long-Finned***	**Short- Finned Pilot Whales** • Except for area of overlap (see below), primarily occur south of 40°N (Mid-Atlantic and SNE waters); although low numbers have been found along the southern flank of GB, but no further than 41°N. • Distributed primarily near the continental shelf break of the Mid-Atlantic and SNE (i.e., off Nantucket Shoals). **Long-Finned Pilot Whales** • Except for area of overlap (see below), primarily occur north of 42°N. • Winter to early spring: distributed principally along the continental shelf edge off the northeastern U.S. coast. • Late spring through fall: movements and distribution shift onto GB and into the GOM and more northern waters. • Species tends to occupy areas of high relief or submerged banks. **Area of Species Overlap:** along the mid-Atlantic shelf break between Delaware and the southern flank of GB.
Notes: Information is representative of small cetacean occurrence in the Northwest Atlantic continental shelf waters out to 2,000 m depth. *Sources*: Hayes et al. (2017; 2018; 2019; 2020; 2022); Payne and Heinemann (1993); Payne et al. (1984); Jefferson et al. (2009).	

5.3.4.4 Pinnipeds

Status and Trends. Harbor, gray, harp and hooded seals are identified as having the potential to be impacted by the proposed action (Table 11). Based on Hayes et al. (2019; 2022), the status of the:

- Western North Atlantic harbor seal and hooded seal, relative to Optimum Sustainable Population (OSP), in the U.S. Atlantic EEZ is unknown;
- Gray seal population relative to OSP in U.S. Atlantic EEZ waters is unknown, but the stock's abundance appears to be increasing in Canadian and U.S. waters; and,
- Harp seal stock, relative to OSP, in the U.S. Atlantic EEZ is unknown, but the stock's abundance appears to have stabilized.

Occurrence and Distribution. Harbor, gray, harp, and hooded seals are found in the nearshore, coastal waters of the Northwest Atlantic Ocean. Depending on species, they may be present year-round or seasonally in some portion of the affected environment of the monkfish fishery. Table 11 gives an overview of pinniped occurrence and distribution in the affected environment of the monkfish and spiny dogfish fisheries for this action. More information on pinniped occurrence and distribution in the Northwest Atlantic is in the NMFS Marine Mammal SARs for the Atlantic Region.

Table 11. Pinniped occurrence and distribution in the monkfish fishery affected environment.

Species	Occurrence and Distribution in the Affected Environment
Harbor Seal	• Year-round inhabitants of Maine; • September through late May: occur seasonally along the coasts from southern New England to Virginia.
Gray Seal	• Ranges from New Jersey to Labrador, Canada.
Harp Seal	• Winter-Spring (approx. January-May): Can occur in the U.S. Atlantic Exclusive Economic Zone. • Sightings and strandings have been increasing off the east coast of the United States from Maine to New Jersey.
Hooded Seal	• Highly migratory and can occur in waters from Maine to Florida. These appearances usually occur between January and May in New England waters, and in summer and autumn off the southeast U.S. coast and in the Caribbean.
Sources: Hayes et al. (2019, for hooded seals; 2022).	

5.3.4.5 Atlantic sturgeon

Status and Trends. As in Table 8, Atlantic sturgeon (all five DPSs) have the potential to be impacted by the proposed action. Population trends for Atlantic sturgeon are difficult to discern; however, the most recent stock assessment report concludes that Atlantic sturgeon, at both coastwide and DPS level, are depleted relative to historical levels (ASMFC 2017a; ASSRT 2007; NMFS 2021a).

Occurrence and Distribution. The marine range of U.S. Atlantic sturgeon extends from Labrador, Canada, to Cape Canaveral, Florida. All five DPSs of Atlantic sturgeon have the potential to be located anywhere in this marine range (Altenritter *et al.* 2017; ASMFC 2017b; ASSRT 2007; Breece *et al.* 2016; Breece *et al.* 2017; Dadswell 2006; Dadswell *et al.* 1984; Dovel & Berggren 1983; Dunton *et al.* 2015; Dunton *et al.* 2010; Erickson *et al.* 2011; Hilton *et al.* 2016; Ingram *et al.* 2019; Kynard *et al.* 2000; Laney *et al.* 2007; Novak *et al.* 2017; O'Leary *et al.* 2014; Rothermel *et al.* 2020; Stein *et al.* 2004a; Waldman *et al.* 2013; Wippelhauser *et al.* 2017; Wirgin *et al.* 2015a; Wirgin *et al.* 2015b).

Based on fishery-independent and dependent surveys, and data collected from genetic, tracking, and/or tagging studies in the marine environment, Atlantic sturgeon appear to primarily occur inshore of the 50 meter depth contour; however, Atlantic sturgeon are not restricted to these depths, as excursions into deeper continental shelf waters have been documented (Altenritter *et al.* 2017; Breece *et al.* 2016; Breece *et al.* 2018; Collins & Smith 1997; Dunton *et al.* 2010; Erickson *et al.* 2011; Ingram *et al.* 2019; Novak *et al.* 2017; Rothermel *et al.* 2020; Stein *et al.* 2004a; b; Wippelhauser *et al.* 2017). Data from fishery-independent and dependent surveys, and data collected from genetic, tracking, and/or tagging studies also indicate that Atlantic sturgeon make seasonal coastal movements from marine waters to river estuaries in the spring and from river estuaries to marine waters in the fall; however, there is no evidence to date that all Atlantic sturgeon make these seasonal movements and therefore, may be present throughout the marine environment throughout the year (Altenritter *et al.* 2017; Dunton *et al.* 2010; Erickson *et al.* 2011; Ingram *et al.* 2019; Novak *et al.* 2017; Rothermel *et al.* 2020; Wippelhauser 2012; Wippelhauser *et al.* 2017).

More information on the biology and range wide distribution of each DPS of Atlantic sturgeon is in 77 FR 5880 and 77 FR 5914 (February 6, 2012); the Atlantic Sturgeon Status Review Team's (ASSRT) 2007 status review of Atlantic sturgeon (ASSRT 2007); the ASMFC 2017 Atlantic Sturgeon Benchmark Stock Assessment and Peer Review Report (ASMFC 2017a); NMFS (2021a); and, the 5-year review for each Atlantic sturgeon DPS.

5.3.4.6 Atlantic salmon

Status and Trends. As in Table 10, Atlantic salmon (GOM DPS) have the potential to be impacted by the proposed action. There is no population growth rate available for GOM DPS Atlantic salmon; however, the consensus is that the DPS exhibits a continuing declining trend (NMFS 2021a; NMFS & USFWS 2018; NOAA 2016).

Occurrence and Distribution. The wild populations of Atlantic salmon are listed as endangered under the ESA. Their freshwater range occurs in the watersheds from the Androscoggin River northward along the Maine coast to the Dennys River, while the marine range of the GOM DPS extends from the GOM (primarily the northern portion) to the coast of Greenland (Fay *et al.* 2006; NMFS & USFWS 2005; 2016). In general, smolts, post-smolts, and adult Atlantic salmon may be present in the GOM and coastal waters of Maine in the spring (beginning in April), and adults may be present throughout the summer and fall months (Baum 1997; Fay *et al.* 2006; Hyvärinen *et al.* 2006; Lacroix & Knox 2005; Lacroix & McCurdy 1996; Lacroix *et al.* 2004; NMFS & USFWS 2005; 2016; Reddin 1985; Reddin & Friedland 1993; Reddin & Short 1991; Sheehan *et al.* 2012; USASAC 2004). More information on the on the biology and range wide distribution of the GOM DPS of Atlantic salmon is in NMFS and USFWS (2005; 2016); Fay et al. (2006); and NMFS (2021a).

5.3.4.7 Giant Manta Ray

Status and Trends. Giant manta rays have the potential to be impacted by the proposed action (Table 8). While there is considerable uncertainty regarding the giant manta ray's current abundance throughout its range, the best available information indicates that in areas where the species is not subject to fishing, populations may be stable (NMFS 2021a). However, in regions where giant manta rays are (or were) actively targeted or caught as bycatch populations appear to be decreasing (Miller & Klimovich 2017).

Occurrence and Distribution. Based on the giant manta ray's distribution, the species may occur in coastal, nearshore, and pelagic waters off the U.S. east coast, usually found in water temperatures between 19 and 22°C and have been observed as far north as New Jersey. Given that the species is rarely identified in the fisheries data in the Atlantic, it may be assumed that populations within the Atlantic are small and sparsely distributed (Miller & Klimovich 2017).

5.3.5 Gear Interactions and Protected Species

Protected species are at risk of interacting with various types of fishing gear, with interaction risks associated with gear type, quantity, soak or tow duration, and degree of overlap between gear and protected species. Information on observed or documented interactions between gear and protected species is available from as early as 1989 (NMFS Marine Mammal SARs for the Atlantic Region; NMFS NEFSC observer/sea sampling database, unpublished data). As the distribution and occurrence of protected species and the operation of fisheries (and, thus, risk to protected species) have changed over the last 30 years, we use the most recent 10 years of available information to best capture the current risk to protected species from fishing gear. For marine mammals protected under the MMPA, the most recent 10 years of observer, stranding, and/or marine mammal serious injury and mortality reports are from 2011-2020 (GAR Marine Animal Incident Database, unpublished data; Cole *et al.* 2013; Hayes *et al.* 2017; 2018; 2019; 2020; Hayes *et al.* 2021; Hayes *et al.* 2022; Hayes *et al*. 2023; Henry *et al.* 2017; Henry *et al.* 2016; Henry *et al*. 2019; Henry *et al.* 2020; Henry *et al.* 2021; Henry *et al*. 2022; Henry *et al.* 2023; Waring *et al.* 2016). For ESA listed species, the most recent ten years of data on observed or documented interactions is available from 2013-2022 (ASMFC 2017a; Kocik *et al.* 2014; unpublished data: GAR Marine Animal Incident Database, NMFS NEFSC observer/sea sampling database, GAR Sea Turtle and Disentanglement Network, NMFS Sea Turtle Stranding and Salvage Network; NMFS 2021a)

(NMFS Marine Mammal SARs for the Atlantic Region; NMFS NEFSC protected species serious injury and mortality Reference Documents, Publications, or Technical Memoranda). Available information on gear interactions with a given species (or species group) is in the sections below. This is not a comprehensive review of all fishing gear types known to interact with a given species; emphasis is on the main gear types used to prosecute the monkfish and spiny dogfish fisheries (i.e., sink gillnet and bottom trawl gear).

5.3.5.1 Sea Turtles

Bottom Trawl Gear. Bottom trawl gear poses an injury and mortality risk to sea turtles (Sasso & Epperly 2006; NMFS Observer Program, unpublished data). Since 1989, the date of our earliest observer records for federally managed fisheries, sea turtle interactions with trawl gear have been observed in the GOM, Georges Bank, and/or the Mid-Atlantic; however, most of the observed interactions have been observed south of the GOM (Murray 2008; 2015; 2020; NMFS 2021a; Warden 2011a; NMFS NEFSC observer/sea sampling database, unpublished data; 2011b). As few sea turtle interactions have been observed in the GOM, there is insufficient data available to conduct a robust model-based analysis and bycatch estimate of sea turtle interactions with trawl gear in this region. As a result, the bycatch estimates and discussion below are for trawl gear in the Mid-Atlantic and Georges Bank.

Murray (2015) estimated that from 2009-2013, the total average annual loggerhead interactions in bottom trawl gear in the Mid-Atlantic was 231 (CV=0.13, 95% CI=182-298); this equates to approximately 33 adult equivalents. Most recently, Murray (2020) provided information on sea turtle interaction rates from 2014-2018 (the most recent five-year period that has been statistically analyzed for trawls). Interaction rates were stratified by region, latitude zone, season, and depth. The highest loggerhead interaction rate (0.43 turtles/day fished) was in waters south of 37º N during November to June in waters over 50 m deep. The most estimated interactions occurred in the Mid-Atlantic region north of 39º N, during July to October in waters under 50 m deep. In each stratum, interaction rates for non-loggerhead species were lower than rates for loggerheads (Murray 2020).

Based on Murray (2020)[9], from 2014-2018, 571 loggerhead (CV=0.29, 95% CI=318-997), 46 Kemp's ridley (CV=0.45, 95% CI=10-88), 20 leatherback (CV=0.72, 95% CI=0-50), and 16 green (CV=0.73, 95% CI=0-44) sea turtle interactions were estimated to have occurred in bottom trawl gear in the Mid-Atlantic region over the five-year period. At Georges Bank, 12 loggerheads (CV=0.70, 95% CI=0-31) and 6 leatherback (CV=1.0, 95% CI=0-20) interactions were estimated to have occurred from 2014-2018. An estimated 272 loggerhead, 23 Kemp's ridley, 13 leatherback, and 8 green sea turtle interactions resulted in mortality over this period (Murray 2020).

Gillnet Gear. Interactions between sink gillnet gear and green, Kemp's ridley, loggerhead, and leatherback sea turtles have been observed in the GAR since 1989 (NMFS NEFSC observer/sea sampling database, unpublished data). Specifically, sea turtle interactions with gillnet gear have been observed in the GOM, Georges Bank, and/or the Mid-Atlantic; however, most of the observed interactions have been observed south of the GOM (Murray 2009a; b; 2013; 2018; NMFS 2021a; NMFS NEFSC observer/sea sampling database, unpublished data). As few sea turtle interactions have been observed in the GOM, there is insufficient data available to conduct a robust model-based analysis and bycatch estimate of sea

[9] Murray (2020) estimated interaction rates for each sea turtle species with stratified ratio estimators. This method differs from previous approaches (Murray 2008; 2015; Warden 2011a; b), where rates were estimated using generalized additive models (GAMs). Ratio estimator results may be like those using GAM or generalized linear models (GLM) if ratio estimators are stratified based on the same explanatory variables in a GAM or GLM model (Murray 2007; Murray & Orphanides 2013; Orphanides 2010).

turtle interactions with sink gillnet gear in this region. As a result, the bycatch estimates and discussion below are for sink gillnet gear in the Mid-Atlantic and Georges Bank.

From 2012-2016 , Murray (2018) estimated that sink gillnet fisheries in the Mid-Atlantic and Georges Bank[10] bycaught 705 loggerheads (CV=0.29, 95% CI over all years: 335-1116), 145 Kemp's ridleys (CV =0.43, 95% CI over all years: 44-292), 27 leatherbacks (CV =0.71, 95% CI over all years 0-68), and 112 unidentified hard-shelled turtles (CV=0.37, 95% CI over all years: 64-321).[11] Of these, mortalities were estimated at 557 loggerheads, 115 Kemp's ridley, 21 leatherbacks, and 88 unidentified hard-shelled sea turtles. Total estimated loggerhead bycatch was equivalent to 19 adults. The highest bycatch rate of loggerheads occurred in the southern Mid-Atlantic stratum (≤ 37°N to 34°N) in large mesh (≥ 7 inches) gear during November to June. Though only one sea turtle was observed in this stratum, observed effort was low, leading to a high bycatch rate. Bycatch rates of all other species were lower relative to loggerheads. Highest estimated loggerhead bycatch occurred in the northern mid-Atlantic (>37°N to the Georges Bank boundary) from July to October in large mesh gears due to the higher levels of commercial effort in the stratum. Mean loggerhead bycatch rates were ten times those of Kemp's ridley bycatch rates in large mesh gear in the northern Mid-Atlantic from July to October (Murray 2018). Although interactions between sink gillnet gear and green sea turtles have been observed (NEFSC observer/sea sampling database, unpublished data); green sea turtles were excluded from the bycatch rate calculations in Murray (2018) because the observed interaction occurred in waters of North Carolina, and therefore, outside the study region.

Updates to Murray (2018) were recently issued by Murray (2023). From 2017-2021[12], Murray (2023) estimated that sink gillnet fisheries operating from Maine to North Carolina[13] bycaught 142 loggerheads (CV=0.89, 95% CI over all years: 15-376), 91 Kemp's ridleys (CV =0.62, 95% CI over all years: 0-218), 49 greens (CV=1.01, 95% CI over all years: 0-177), 26 leatherbacks (CV=0.98, 95% CI over all years: 0-79), and 32 unidentified hard-shelled turtles (CV=0.59, 95% CI over all years: 0-75). Of these interactions, mortalities were estimated at 88 loggerheads, 56 Kemp's ridley, 30 greens, 16 leatherbacks, and 20 unidentified hard-shelled sea turtles. Total estimated loggerhead bycatch was equivalent to 2.5 adults. The highest interaction rate of loggerhead sea turtles occurred in the northern Mid-Atlantic (>37ºN to the Georges Bank boundary) from July to October in large mesh gears (≥ 7 inches); relative to loggerheads, interaction rates were lower for all other sea turtle species.

5.3.5.2 Atlantic Sturgeon

Sink gillnet and bottom trawl gear. The ASMFC (2017a), Miller and Shepard (2011), NMFS (2021a), Boucher and Curti (2023) and the most recent ten years of NMFS observer data (i.e., 2013-2022; NMFS

[10] The boundaries of the Mid-Atlantic and Georges Bank were defined by Ecological Production Units (Murray 2018).

[11] Murray (2018) estimated interaction rates for each sea turtle species with stratified ratio estimators. This method differs from previous approaches Murray (2009a); (2013), where rates were estimated using GAMs. Ratio estimator results may be like to those using GAM or GLM if ratio estimators are stratified based on the same explanatory variables in a GAM or GLM model (Murray 2007; Murray & Orphanides 2013; Orphanides 2010).

[12] Due to the COVID 19 pandemic, observer coverage rates were greatly reduced in 2020 and 2021. Murray (2023) determined that estimated interactions derived from a 3-year time series (2017-2019) did not differ significantly from those derived from the 5-year time series (2017-2021), suggesting that reduced and uneven observer monitoring in 2020 and 2021 did not bias the results using the longer time series. As a result, observer data from 2017-2019 was used to estimate sea turtle interaction rates, confidence intervals, and CVs for the 2017-2021 time series.

[13] Murray (2023) defined this range as the boundaries of the Gulf of Maine, Georges Bank, and Mid-Atlantic Ecological Production Units.

NEFSC observer/sea sampling database, unpublished data) describe the observed or documented interactions between Atlantic sturgeon and bottom trawl and gillnet gear in the GAR. For sink gillnets, higher levels of Atlantic sturgeon bycatch have been associated with depths under 40 m, mesh sizes over ten inches, and the months of April and May ASMFC (2007). For otter trawl fisheries, the highest incidence of Atlantic sturgeon bycatch has been associated with depths under 30 m. More recently, over all gears and observer programs that have encountered Atlantic sturgeon, the distribution of haul depths on observed hauls that caught Atlantic sturgeon was significantly different from those that did not encounter Atlantic surgeon, with Atlantic sturgeon encountered primarily at depths under 20 m (ASMFC 2017a).

Boucher and Curti (2023) updated the estimate of Atlantic sturgeon bycatch that was presented in the ASMFC (2017a) Atlantic sturgeon benchmark stock assessment for the annual Atlantic sturgeon interactions in fishing gear (e.g., otter trawl, gillnet). The assessment analyzed fishery observer and VTR data to estimate Atlantic sturgeon interactions in fishing gear in the Mid-Atlantic and New England regions from 2000-2021 (excluding 2020 due to COVID-related impacts on data collection). The total bycatch of Atlantic sturgeon from bottom otter trawls was between 638-836 fish over 2016-2021 (excluding 2020 due to COVID-related impacts on data collection), while the total bycatch of Atlantic sturgeon from gillnets ranged from 1,031-1,268 fish. The estimated average annual bycatch during 2016-2021 of Atlantic sturgeon in bottom otter trawl gear is 718.4 individuals and in gillnet gear is 1,125.4 individuals. However, the estimate of Atlantic sturgeon bycatch in Boucher and Curti (2023) for 2016-2021 includes take of all Atlantic sturgeon, including non-listed fish that originate in Canadian waters but occur within the affected environment of this action. Partitioning out the fish that were likely of Canadian origin, NOAA fisheries concluded that the total bycatch of ESA-listed Atlantic sturgeon, only, during 2016-2021 in bottom otter trawl gear is 712 individuals and in gillnet gear is 1,115 individuals.

5.3.5.3 Atlantic Salmon

Sink gillnet and bottom trawl gear. Atlantic salmon are at risk of interacting with bottom trawl or gillnet gear (Kocik *et al.* 2014; NMFS 2021a; NEFSC observer/sea sampling database, unpublished data). Northeast Fisheries Observer Program (NEFOP) data from 1989-2022 show records of incidental bycatch of Atlantic salmon in seven of the 31 years, with a total of 15 individuals caught, nearly half of which (seven) occurred in 1992 (NMFS NEFSC observer/sea sampling database, unpublished data).[14] Of the observed incidentally caught Atlantic salmon, ten were listed as "discarded," which is assumed to be a live discard (Kocik, pers comm.; February 11, 2013). Five of the 15 were documented as lethal interactions. The incidental takes of Atlantic salmon occurred in bottom otter trawls (4) and gillnets (11). Observed captures occurred in March (2), April (2), May (1), June (3), August (1), and November (6). Given the very low number of observed Atlantic salmon interactions in gillnet and bottom trawl gear, interactions with these gear types are believed to be rare in the GAR.

5.3.5.4 Giant Manta Ray

Sink gillnet and bottom trawl gear. Giant manta rays are potentially susceptible to capture by bottom trawl and gillnet gear based on records of their capture in fisheries using these gear types (NMFS 2021a; NMFS NEFSC observer/sea sampling database, unpublished data). The most recent 10 years of NEFOP data show that between 2013-2022, one giant manta ray and five unidentified *Mobulidae* were observed in bottom trawl gear and two were observed in gillnet gear (NMFS NEFSC observer/sea sampling database, unpublished data). Also, all the giant manta ray interactions in gillnet or trawl gear recorded in

[14] There is no information available on the genetics of these bycaught Atlantic salmon, so it is not known how many of them were part of the GOM DPS. It is likely that some of these salmon, particularly those caught south of Cape Cod, may have originated from the stocking program in the Connecticut River. Those Atlantic salmon caught north of Cape Cod and/or in the Gulf of Maine are more likely to be from the GOM DPS.

the NEFOP database (13 in 2001-2022) indicate the animals were encountered alive and released alive. However, details about specific conditions such as injuries, damage, time out of water, how the animal was moved or released, or behavior on release is not always recorded. While there is no information on post-release survival, NMFS Southeast Gillnet Observer Program observed a range of 0-16 giant manta rays captured per year between 1998 and 2015 and estimated that approximately 89% survived the interaction and release (NMFS reports: http://www.sefsc.noaa.gov/labs/panama/ob/gillnet.htm).

5.3.5.5 Marine Mammals

Depending on species, marine mammals have been observed seriously injured or killed in bottom trawl and/or sink gillnet gear. Pursuant to the MMPA, NMFS publishes a List of Fisheries (LOF) annually, classifying U.S. commercial fisheries into one of three categories based on the relative frequency of incidental serious injuries and/or mortalities of marine mammals in each fishery (i.e., Category I=frequent; Category II=occasional; Category III=remote likelihood or no known interactions). In the Northwest Atlantic, the 2023 LOF (88 FR 16899, March 21, 2023) categorizes commercial sink gillnet fisheries (Northeast and Mid-Atlantic) as a Category I fishery; and bottom trawl fisheries (Northeast or Mid-Atlantic) as a Category II fishery. No changes for how these fisheries are categorized were proposed for the 2024 LOF (88 FR 62748; September 13, 2023).

5.3.5.5.1 Large Whales

Bottom Trawl Gear. The most recent 10 years of observer, stranding, and/or baleen whale serious injury and mortality determinations from 2012-2021, and the GAR Marine Animal Incident database shows that there has been one observed or confirmed documented interactions with large whales and bottom trawl gear. In 2020, a humpback whale was anchored/entangled in fishing gear, later identified by NMFS as trawl net. The animal was disentangled by responders from the Atlantic Large Whale Disentanglement Network. The gear was removed and recovered from the animal, and the whale was released alive with non-serious injuries. Additional information on this incident can be found in the 2020 Atlantic Large Whale Entanglement Report and in Henry et al. 2023).

Sink Gillnet Gear. Large whale interactions (entanglements) with fishing gear have been observed and documented in the waters of the Northwest Atlantic.[15] Information available on all interactions (e.g., entanglement, vessel strike, unknown cause) with large whales comes from reports documented in the GARFO Marine Animal Incident Database (unpublished data). The level of information collected for each case varies, but may include details on the animal, gear, and any other information about the interaction (e.g., location, description, etc.). Each case is evaluated using defined criteria to assign the case to an injury/information category using all available information and scientific judgement. In this way, the injury severity and cause of injury/death for the event is evaluated, with serious injury and mortality determinations issued by the NEFSC.[16]

Based on the best available information, the greatest entanglement risk to large whales is posed by fixed gear used in trap/pot or sink gillnet fisheries (Hartley et al. 2003; Johnson et al. 2005;Whittingham et al. 2005a,b; Knowlton et al. 2012; NMFS 2021a,b; Hamilton and Kraus 2019; Henry et al. 2014; Henry et al. 2015; Henry et al. 2016; Henry et al. 2017; Henry et al. 2019; Henry et al. 2020; Henry et al. 2021; Henry et al. 2022; Sharp et al. 2019; Pace et al. 2021; NMFS *Marine Mammal SARs for the Atlantic Region*).

[15] NMFS Atlantic Large Whale Entanglement Reports: For years prior to 2014, contact David Morin, Large Whale Disentanglement Coordinator, David.Morin@NOAA.gov; GAR Marine Animal Incident Database (unpublished data); NMFS Marine Mammal Stock Assessment Reports for the Atlantic Region; NMFS NEFSC Baleen Whale Serious Injury and Morality Determinations Reference Documents, Publications, or Technical Memoranda; MMPA List of Fisheries; NMFS 2021a,b.

[16] NMFS NEFSC Baleen Whale Serious Injury and Morality Determinations Reference Documents, Publications, or Technical Memoranda.

Specifically, while foraging or transiting, large whales are at risk of becoming entangled in vertical endlines, buoy lines, or groundlines of gillnet and pot/trap gear, and the net panels of gillnet gear that rise into the water column (Baumgartner et al. 2017; Cassoff et al. 2011; Cole and Henry 2013; Hamilton and Kraus 2019; Hartley et al. 2003; Henry et al. 2014; Henry et al. 2015; Henry et al. 2016; Henry et al. 2017; Henry et al. 2019; Henry et al. 2020; Henry et al. 2021; Henry et al. 2022; Johnson et al. 2005; Kenney and Hartley 2001; Knowlton and Kraus 2001;Knowlton et al. 2012; NMFS 2021a,b; Whittingham et al. 2005a,b; see NMFS *Marine Mammal SARs for the Atlantic Region*).[17] Large whale interactions (entanglements) with these features of trap/pot and/or sink gillnet gear often result in the serious injury or mortality to the whale (Angliss and Demaster 1998; Cassoff et al. 2011; Cole and Henry 2013; Henry et al. 2014, Henry et al. 2015, Henry et al. 2016; Henry et al. 2017; Henry et al. 2019; Henry et al. 2020; Henry et al. 2021; Henry et al. 2022; Knowlton and Kraus 2001, Knowlton et al. 2012; Moore and Van der Hoop 2012; NMFS 2014; NMFS 2021a,b; Pettis et al. 2021; Sharp et al. 2019; van der Hoop et al. 2016; van der Hoop et al. 2017). In fact, review of Atlantic coast-wide causes of large whale human interaction incidents between 2010 and 2019 shows that entanglement is the highest cause of mortality and serious injury for North Atlantic right, humpback, fin, and minke whales in those instances when cause of death could be determined (NMFS 2021b). As many entanglements, and therefore, serious injury or mortality events, go unobserved, and because the gear type, fishery, and/or country of origin for reported entanglement events are often not traceable, the rate of large whale entanglement, and thus, rate of serious injury and mortality due to entanglement, are likely underestimated (Hamilton et al. 2018; Hamilton et al. 2019; Knowlton et al. 2012; NMFS 2021a,b; Pace et al. 2017; Robbins 2009).

As noted above, pursuant to the MMPA, NMFS publishes a LOF annually, classifying U.S. commercial fisheries into one of three categories based on the relative frequency of incidental serious injurious and mortalities of marine mammals in each fishery. Large whales, in particular humpback, fin, minke, and North Atlantic right whales, are known to interact with Category I and II fisheries in the Northwest Atlantic Ocean. As fin, and North Atlantic right whales are listed as endangered under the ESA, these species are considered strategic stocks under the MMPA. Section 118(f)(1) of the MMPA requires the preparation and implementation of a Take Reduction Plan for any strategic marine mammal stock that interacts with Category I or II fisheries. In response to its obligations under the MMPA, in 1996, NMFS established the Atlantic Large Whale Take Reduction Team (ALWTRT) to develop a plan (Atlantic Large Whale Take Reduction Plan (ALWTRP)) to reduce serious injury to, or mortality of large whales, specifically, humpback, fin, and North Atlantic right whales, due to incidental entanglement in U.S. commercial fishing gear.[18] In 1997, the ALWTRP was implemented; however, since 1997, it has been modified as NMFS and the ALWTRT learn more about why whales become entangled and how fishing practices might be modified to reduce the risk of entanglement. In 2021, adjustments to Plan were implemented and are summarized online.

The ALWTRP consists of regulatory (e.g., universal gear requirements, modifications, and requirements; area-and season- specific gear modification requirements and restrictions; time/area closures) and non-regulatory measures (e.g., gear research and development, disentanglement, education and outreach) that, in combination, seek to assist in the recovery of North Atlantic right, humpback, and fin whales by addressing and mitigating the risk of entanglement in gear employed by commercial fisheries, specifically trap/pot and gillnet fisheries. The ALWTRP recognizes trap/pot and gillnet Management Areas in Northeast, Mid-Atlantic, and Southeast regions of the U.S, and identifies gear modification requirements

[17] Through the ALWTRP, regulations have been implemented to reduce the risk of entanglement in in vertical endlines, buoy lines, or groundlines of gillnet and pot/trap gear, and the net panels of gillnet gear. ALWTRP regulations currently in effect are summarized online.

[18] The measures identified in the ALWTRP are also beneficial to the survival of the minke whale, which are also known to be incidentally taken in commercial fishing gear.

and restrictions for Category I and II gillnet and trap/pot fisheries in these regions; these Category I and II fisheries must comply with all regulations of the Plan.[19] Further details of the Plan are at: the ALWTRP.

5.3.5.5.2 Small Cetaceans and Pinnipeds

Sink Gillnet and Bottom Trawl Gear. Small cetaceans and pinnipeds are vulnerable to interactions with sink gillnet and bottom trawl gear.[20] Reviewing marine mammal stock assessment and serious injury reports that cover the most recent 10 years data (i.e., 2011-2020), and the MMPA LOF's covering this time frame (i.e., issued between 2017 and 2023), Table 12 has a list of species that have been observed (incidentally) seriously injured and/or killed by MMPA LOF Category I (frequent interactions) gillnet and/or Category II (occasional interactions) bottom trawl fisheries that operate in the affected environment of the monkfish and spiny dogfish fisheries for this action. Of the species in Table 12, gray seals, followed by harbor seals, harbor porpoises, short beaked common dolphins, and harps seals are the most frequently bycaught small cetacean and pinnipeds in sink gillnet gear in the GAR (Hatch & Orphanides 2014; 2015; 2016; Orphanides 2019; 2020; 2021; Orphanides & Hatch 2017; Precoda & Orphanides 2022). In terms of bottom trawl gear, short-beaked common dolphins, Risso's dolphins, Atlantic white-sided dolphins, and gray seals are the most frequently observed bycaught marine mammal species in the GAR, followed by long-finned pilot whales, bottlenose dolphin (offshore), harbor porpoise, harbor seals, and harp seals (Chavez-Rosales *et al.* 2017; Lyssikatos 2015; Lyssikatos & Chavez-Rosales 2022; Lyssikatos *et al.* 2020; 2021).

Table 12. Small cetacean and pinniped species incidentally injured and/or killed by Category I sink gillnet fisheries or Category II bottom trawl fisheries operating in the affected environment of the monkfish fishery and/or the spiny dogfish fishery.

Fishery	Category	Species Incidentally Injured/Killed
Northeast Sink Gillnet	I	Bottlenose dolphin (offshore; Northern Migratory Coastal)
		Harbor porpoise
		Atlantic white sided dolphin
		Short-beaked common dolphin
		Risso's dolphin
		Long-finned pilot whales
		Harbor seal
		Hooded seal
		Gray seal
		Harp seal
Mid-Atlantic Gillnet	I	Bottlenose dolphin (offshore, Northern and Southern Migratory coastal)
		Harbor porpoise
		Short-beaked common dolphin
		Harbor seal
		Hooded seal

[19] The fisheries currently regulated under the ALWTRP include: Northeast/Mid-Atlantic American lobster trap/pot; Atlantic blue crab trap/pot; Atlantic mixed species trap/pot; Northeast sink gillnet; Northeast anchored float gillnet; Northeast drift gillnet; Mid-Atlantic gillnet; Southeastern U.S. Atlantic shark gillnet; and Southeast Atlantic gillnet .

[20] For additional information on small cetacean and pinniped interactions, see: NMFS NEFSC marine mammal serious injury and mortality Reference Documents, Publications, or Technical Memoranda; NMFS Marine Mammal SARs for the Atlantic Region; MMPA LOF.

		Harp seal
		Gray seal
Northeast Bottom Trawl	II	Harp seal
		Harbor seal
		Gray seal
		Long-finned pilot whales
		Short-beaked common dolphin
		Atlantic white-sided dolphin
		Harbor porpoise
		Bottlenose dolphin (offshore)
		Risso's dolphin
Mid-Atlantic Bottom Trawl	II	White-sided dolphin
		Short-beaked common dolphin
		Risso's dolphin
		Bottlenose dolphin (offshore)
		Gray seal
		Harbor seal
Source: MMPA 2017-2023 LOFs		

To address the high levels of incidental take of harbor porpoise and bottlenose dolphins in sink gillnet fisheries, pursuant to section MMPA Section 118(f)(1), the Harbor Porpoise Take Reduction Plan (HPTRP) and the Bottlenose Dolphin Take Reduction Plan (BDTRP) were developed and implemented for these species.[21] Also, due to the incidental mortality and serious injury of small cetaceans, incidental to bottom and midwater trawl fisheries operating in both the Northeast and Mid- Atlantic regions, the Atlantic Trawl Gear Take Reduction Strategy was implemented. More information on each take reduction plan or strategy is at: NMFS HPTRP, NMFS BDTRP, or NMFS Atlantic Trawl Gear Take Reduction Strategy.

5.4 Physical Environment and Essential Fish Habitat

The Northeast U.S. Shelf Ecosystem has been described as including the area from the GOM south to Cape Hatteras, extending from the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream (Sherman *et al.* 1996). The continental slope includes the area east of the shelf, out to a depth of 2,000 m. Four distinct sub-regions comprise the NOAA Fisheries Greater Atlantic Region: the Gulf of Maine, Georges Bank, the Mid-Atlantic Bight, and the continental slope. Occasionally another sub-region, Southern New England, is described; however, we incorporated discussions of any distinctive features of this area into the sections describing Georges Bank and the Mid-Atlantic Bight.

The Gulf of Maine is an enclosed coastal sea, characterized by relatively cold waters and deep basins, with a patchwork of 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

[21] Although the most recent U.S. Atlantic and Gulf of Mexico Marine Mammal SARs (Hayes *et al.* 2022) no longer designates harbor porpoise as a strategic stock, HPTRP regulations are still in place per the mandates provided in Section 118(f)(1).

is characterized by highly productive, well-mixed waters and strong currents. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from southern New England to Cape Hatteras, NC. The continental slope begins at the continental shelf break and continues eastward with increasing depth until it becomes the continental rise. It is homogenous, with exceptions at the shelf break, some of the canyons, the Hudson Shelf Valley, and in areas of glacially rafted hard bottom.

Pertinent physical and biological characteristics of each of these sub-regions are described in the Physical and Biological Environment section of Amendment 5 (Section 4.2), along with a short description of the physical features of coastal environments. Monkfish habitats are described in Section 4.4.1 of Amendment 5 and summarized below. Information on the affected physical and biological environments included in Amendment 5 was extracted from Stevenson et al. (2004).

5.4.1 Fishing Effects on EFH

A detailed discussion of fishing impacts on EFH is contained in the Affected Environment Section of Amendment 5 to the Monkfish FMP and in the Affected Environment Section 6 of the 2023 Spiny Dogfish Specifications EA (MAFMC 2023). Since monkfish and spiny dogfish EFH has been determined to not be vulnerable to any fishing gear (Stevenson *et al.* 2004), the discussion focuses on gillnet gear that potentially could impact EFH of other fisheries given that is the focus of this action. Discussion in Monkfish Amendment 5 and the 2023 Spiny Dogfish Specifications EA cites several important peer-reviewed studies in describing the potential biological and physical effects of fishing on various substrates (mud, sand, gravel and rocky substrates). Since gillnets are stationary or static, the gear has been determined to not have an adverse effect on EFH of other species and are, therefore, omitted from further discussion in this section.

5.4.2 Essential Fish Habitat

Section 4.4 of Monkfish Amendment 5 and Section 6 of the 2023 Specifications Environmental Assessment (MAFMC 2023) contain detailed descriptions of monkfish and spiny dogfish EFH, respectively. EFH of other species vulnerable to gillnet, the effect of the monkfish and spiny dogfish fisheries on EFH (monkfish, spiny dogfish, and other species, all life stages), and previous measures to minimize adverse effects of the monkfish and spiny dogfish fisheries on EFH can also be found in those documents.

In summary, monkfish and spiny dogfish EFH have been determined to only be minimally vulnerable to bottom gillnets. Therefore, the effects of the monkfish fishery and other fisheries on monkfish EFH do not require any management action. There are no species or life stages for which EFH is more than minimally vulnerable to bottom gillnets (Stevenson et al., 2004).

5.5 Human Communities

Monkfish Focus

Note: Based on fishery differences and public input over the years from affected communities, the two Councils take slightly different approaches in describing the interaction of a fishery and the relevant human communities, so Section 5.6 (monkfish focus) and 5.7 (spiny dogfish focus) differ in formatting.

5.5.1 Permits and Vessels

The Monkfish FMP has seven types of federal permits: six categories of limited access permits (A-D, F, H) and one open access permit (E, Table 13). The number of fishing vessels with limited access monkfish permits has decreased over the past decade, from 670 to 562 (Table 14). Of those vessels, about 35-48% landed over 1 lb of monkfish each year and about 9-20% landed ≥ 10,000 lb of monkfish. Permit category C and D vessels consistently accounted for the greatest portion of vessels with monkfish permits and landing monkfish (Table 14, Table 15).

Table 13. Monkfish permit categories.

Permit Category		Description
Limited Access	A	DAS permit that *does not* also have a groundfish or scallop limited access permit (possession limits vary with permit type).
	B	
	C	DAS permit that *also* has a groundfish or scallop limited access permit (possession limits vary with permit type).
	D	
	F	Seasonal permit for the offshore monkfish fishery.
	H	DAS permit for use in the Southern Fishery Management Area *only*.
Open Access	E	Open access incidental permit.

Table 14. Fishing vessels with federal monkfish permits, with number of vessels landing over 1 lb and 10,000 lb, FY 2012-2021.

Permit Category	2012			2015			2018			2021		
	All	>1lb	>10K lb	All	>1lb	>10K lb	All	>1lb	>10K lb	All	>1lb	>10K lb
A	22	6	4	22	4	*	20	*	*	18	8	6
B	44	9	5	42	4	*	38	6	4	38	19	15
C	295	148	60	267	128	30	268	110	30	255	114	42
D	292	94	28	242	59	10	226	77	18	229	115	50
F	9	6	4	17	9	*	17	14	4	14	13	0
H	8	5	4	8	6	5	7	6	3	8	*	0
Total LA	**670**	**268**	**105**	**598**	**210**	**51**	**576**	**214**	**60**	**562**	**270**	**113**
E	1,743	338	19	1,578	247	8	1,525	247	20	1,485	176	7

Source: GARFO Permit database and DMIS as of April 2022.

Table 15. Proportion of monkfish landings by permit category to total monkfish landings in the year, FY 2012-2021.

Permit Category	2012	2015	2018	2021
A and B	15%	13%	16%	12%
C and D	75%	80%	77%	83%
F	2%	2%	1%	>1%
H	1%	1%	1%	0%
E	7%	5%	5%	4%
All	**100%**	**100%**	**100%**	**100%**
Source: GARFO Permit database and DMIS as of April 2022.				

5.5.2 Catch and Landings

From FY 2017-2021, the ACL was exceeded in the NFMA twice and never in the SFMA (Table 16). Commercial landings made up 77-90% of total catch in the NFMA and 30-59% in the SFMA. State landings, defined as vessels that have never had a federal fishing permit, consistently make up under 0.5% of catch. Recreational catch is consistently under 3% of catch. In the NFMA, discards were 9% of catch in FY 2017 and increased to 28% and lowered to 20% and 19% of catch in FY 2018-2020; discards were similar in FY 2021 (21%). In the SFMA, discards were higher in FY 2017-2019 (41-43%) but lowered to 13% in FY 2020 and increased to 27% in FY 2021.

Table 16. Year-end monkfish annual catch limit (ACL) accounting, FY 2017-2021.

Catch accounting element	Pounds	Metric tons	% of ACL
FY 2017			
Northern Fishery Management Area (ACL = 7,592 mt)			
Commercial landings	15,003,103	6,805	89.6%
State-permitted only vessel landings	60,031	27	0.4%
Estimated discards	1,567,883	711	9.4%
Recreational catch (MRIP landings and discards)	11,725	5.3	0.1%
Total Northern monkfish catch	**16,642,742**	**7,549**	**99.4%**
Southern Fishery Management Area (ACL = 12,316 mt)			
Commercial landings	8,392,979	3,807	30.9%
State-permitted only vessel landings	66,936	30	0.2%
Estimated discards	11,531,614	5,231	42.5%
Recreational catch (MRIP landings and discards)	1,627	1	0.0%
Total Southern monkfish catch	**19,993,156**	**9,068**	**73.6%**
FY 2018			
Northern Fishery Management Area (ACL = 7,592 mt)			
Commercial landings	13,237,011	6,004	79.1%

State-permitted only vessel landings	37,468	17	0.2%
Estimated discards	4,666,815	2,117	27.9%
Recreational catch (MRIP landings and discards)	6,977	3	0.0%
Total Northern monkfish catch	**17,948,271**	**8,141**	**107.2%**
Southern Fishery Management Area (ACL = 12,316 mt)			
Commercial landings	10,133,407	4,596	37.3%
State-permitted only vessel landings	64,841	29	0.2%
Estimated discards	11,505,833	5,219	42.4%
Recreational catch (MRIP landings and discards)	742,988	337	2.7%
Total Southern monkfish catch	**22,447,069**	**10,181**	**82.7%**
FY 2019			
Northern Fishery Management Area (ACL = 7,592 mt)			
Commercial landings	13,673,898	6,202	81.7%
State-permitted only vessel landings	16,474	7	0.1%
Estimated discards	3,418,346	1,551	20.4%
Recreational catch (MRIP landings and discards)	164,771	75	1.0%
Total Northern monkfish catch	**17,273,489**	**7,835**	**103.2%**
Southern Fishery Management Area (ACL = 12,316 mt)			
Commercial landings	8,236,922	3,736	30.3%
State-permitted only vessel landings	66,673	30	0.2%
Estimated discards	11,174,259	5,069	41.2%
Recreational catch (MRIP landings and discards)	11,410	5	0.0%
Total Southern monkfish catch	**19,489,264**	**8,840**	**71.7%**
FY 2020			
Northern Fishery Management Area (ACL = 8,351 mt)			
Commercial landings	11,684,519	5,300	63.5%
State-permitted only vessel landings	13,416	6	0.1%
Estimated discards	3,503,282	1,589	19.0%
Recreational catch (MRIP landings and discards)	23,077	10	0.1%
Total Northern monkfish catch	**15,224,294**	**6,905**	**82.7%**
Southern Fishery Management Area (ACL = 12,316 mt)			
Commercial landings	4,944,794	2,243	18.2%
State-permitted only vessel landings	20,749	9	0.1%
Estimated discards	3,078,040	1,396	11.3%
Recreational catch (MRIP landings and discards)	359,987	163	1.3%
Total Southern monkfish catch	**8,453,570**	**3,834**	**31.1%**
FY 2021			
Northern Fishery Management Area (ACL = 8,351 mt)			
Commercial landings	11,496,640	5,215	62.4%

State-permitted only vessel landings	18,511	8	0.1%
Estimated discards	3,857,341	1,750	21.0%
Recreational catch (MRIP landings and discards)	7	0	0.0%
Total Northern monkfish catch	**15,372,499**	**6,973**	**83.5%**
Southern Fishery Management Area (ACL = 12,316 mt)			
Commercial landings	4,338,159	1,968	16.0%
State-permitted only vessel landings	32,185	15	0.1%
Estimated discards	7,278,106	3,301	26.8%
Recreational catch (MRIP landings and discards)	30,056	14	0.1%
Total Southern monkfish catch	**11,678,506**	**5,298**	**43.0%**

Notes:
"Commercial landings" includes all monkfish landings by vessels with a permit number over zero, RSA landings, and party/charter landings sold to a federal dealer.
"State-permitted only vessel landings" are landings from vessels that never had a federal fishing permit (so the permit #=0).
"Recreational catch" includes landings and discards from party charter vessels and private anglers, not sold to a federal dealer.

Source: Commercial fisheries dealer and Northeast Fishery Observer Program databases; FY 2017 data accessed 10/2018; FY 2018 accessed 3/2020; FY 2019 accessed 3/2021; FY 2020 accessed 4/22; Marine Recreational Information Program database.

Landings

Landings since FY 2016 have been higher in the NFMA than in the SFMA. The NFMA has had a higher TAL and higher possession limits relative to the SFMA (Table 17). Landings relative to TAL in the NFMA have been between 80-107% since FY 2016, which could be a combination of revised management measures (possession limits) and the large 2015-year class. The NFMA TAL was increased by 10% for FY 2020-2022 (relative to FY 2017-2019) and the individuals from the 2015-year class have grown large enough to be retained by the fishery and are less likely to be discarded because of minimum size regulations. The landings relative to TAL in the SFMA have been lower than the NFMA, between 39-51% since FY 2016.

Table 17. Recent landings (whole/live weight, mt) in the NFMA and SFMA compared to target TAL.

Fishing Year	Northern Area			Southern Area		
	TAL (mt)	Landings (mt)	Percent of TAL achieved	TAL (mt)	Landings (mt)	Percent of TAL achieved
2014	5,854	3,403	58%	8,925	5,415	61%
2015	5,854	4,080	70%	8,825	4,733	53%
2016	5,854	5,447	93%	8,925	4,345	49%
2017	6,338	6,807	107%	9,011	3,802	42%
2018	6,338	6,168	97%	9,011	4,600	51%
2019	6,338	6,211	98%	9,011	3,785	42%
2020	6,624	5,299	80%	5,882	2,294	39%
2021	6,624	5,228	79%	5,882	1,982	34%
*2022	6,624	3,569	54%	5,882	1,366	23%

*Data as of February 16, 2023.
Landings values are different than the annual catch limit accounting in Table 16 because these are the landings as of April 30 each year. Includes RSA landings.
Source: GARFO quota monitoring data, accessed 3/6/2023.

FY 2021 landings. In FY 2021, 79% of the FY 2021 TAL was landed in the northern area and 34% in the southern area. In the NFMA, monthly landings were lower in May-November 2021 relative to December-March (312-417 mt/month vs. 501-654 mt/month). Otter trawls accounted for 63% of the FY 2021 landings. In the SFMA, monthly landings were highest in May and June 2021 (439-535 mt/month), then dropped to a low in July-November (9-59 mt/month), then were moderate since December (117-227 mt/month). These data and additional information can be found at GARFO's Quota Monitoring website: https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports//monkfish/mul.htm.

Landings and discards by gear type. The northern and southern areas have distinctions in terms of gear type. Since at least 1980, monkfish landings in the NFMA have largely been by vessels using trawls (NEFMC 2022b), 84% on average since 2012 (Table 18). In the SFMA, landings were primarily by vessels using dredges and trawls from 1980 to the early 1990s. Through the 1990s and to today, gillnets have been the predominant gear for vessels landing monkfish, 72% on average since 2012.

Discards have traditionally been higher in the SFMA relative to the NFMA, and since 2017, southern essential discards have approximated landings, exceeding landings in 2020 (Table 19). In the NFMA, discards have been primarily with otter trawl gear (64%), followed by scallop dredges (29%), and gillnets (7%) over the last 10 years. In the SFMA, discards have been primarily with scallop dredges (78%), followed by otter trawl (16%), and gillnets (6%).

Table 18. Landings by gear type (mt), CY 2012-2021.

Calendar Year	Gillnet		Otter trawl		Scallop Dredge		Total[a]
Northern Fishery Management Area							
2012	359	9%	3,561	87%	135	3%	**4,081**
2013	424	13%	2,813	84%	114	3%	**3,355**
2014	424	12%	2,958	86%	36	1%	**3,434**
2015	678	17%	3,277	80%	100	2%	**4,086**
2016	629	13%	3,949	84%	111	2%	**4,723**
2017	984	14%	6,044	85%	44	1%	**7,105**
2018	870	14%	4,958	83%	153	3%	**6,009**
2019	1,029	17%	4,950	81%	53	1%	**6,084**
2020	554	10%	5,020	90%	11	0%	**5,587**
2021	961	19%	4,122	80%	20	0%	**5,121**
Annual average	**691**	**14%**	**4,165**	**84%**	**78**	**2%**	**4,959**
Southern Fishery Management Area							
2012	3,614	64%	1,144	20%	766	14%	**5,674**
2013	3,394	65%	1,115	21%	627	12%	**5,207**
2014	3,139	62%	1,029	20%	899	18%	**5,099**
2015	3,293	72%	674	15%	542	12%	**4,550**
2016	3,247	75%	577	13%	372	9%	**4,331**
2017	2,773	73%	547	14%	418	11%	**3,796**
2018	3,346	76%	497	11%	486	11%	**4,388**
2019	3,526	81%	357	8%	260	6%	**4,373**
2020	1,956	75%	387	15%	190	7%	**2,593**
2021	1,530	76%	300	15%	150	7%	**2,005**
Annual Average	2,982	**72%**	663	**15%**	471	**11%**	**4,202**

Source: Deroba (2022).
[a] The total column includes landings from other minor gear types.

Table 19. Discards by gear type (mt), CY 2012-2021.

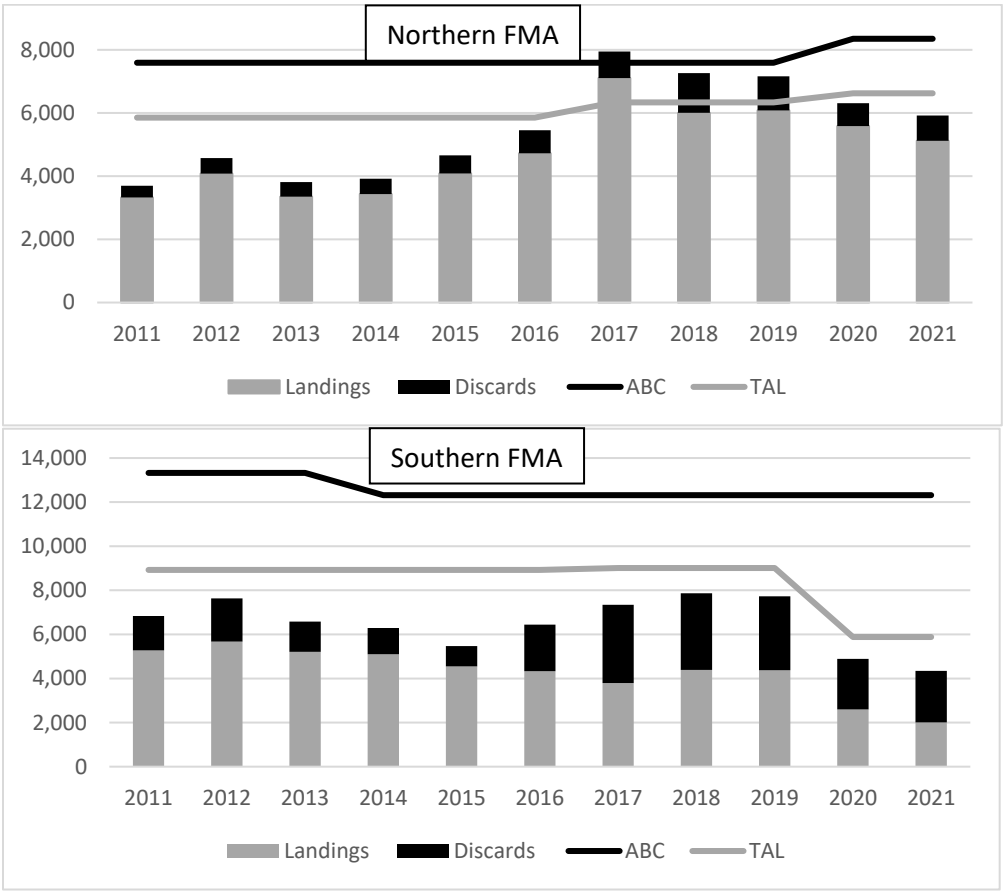
Calendar Year	Gillnet		Otter trawl		Scallop Dredge		Total
Northern Fishery Management Area							
2012	20	4%	233	47%	240	49%	**493**
2013	32	7%	300	65%	127	28%	**459**
2014	27	6%	384	79%	73	15%	**484**
2015	42	7%	462	81%	68	12%	**572**
2016	56	8%	483	66%	195	27%	**734**
2017	31	4%	712	85%	96	11%	**840**
2018	66	5%	404	32%	783	62%	**1,253**
2019	54	5%	512	47%	514	48%	**1,080**
2020	109	15%	528	73%	85	12%	**723**
2021	62	8%	500	62%	240	30%	**802**
Annual average	**50**	**7%**	**452**	**64%**	**242**	**29%**	**744**
Southern Fishery Management Area							
2012	192	10%	187	10%	1,583	81%	**1,962**
2013	236	17%	106	8%	1,030	75%	**1,372**
2014	151	13%	143	12%	893	75%	**1,188**
2015	73	8%	262	29%	583	64%	**919**
2016	87	4%	552	26%	1,475	70%	**2,114**
2017	116	3%	581	16%	2,847	80%	**3,544**
2018	142	4%	398	11%	2,936	84%	**3,476**
2019	172	5%	456	14%	2,730	81%	**3,358**
2020	82	4%	722	31%	1,491	65%	**2,295**
2021	67	3%	127	5%	2,147	92%	**2,340**
Annual Average	**132**	**6%**	**353**	**16%**	**1,772**	**78%**	**2,257**

Source: Deroba (2022).

Fishery performance relative to specifications

Fishery catch has largely been below the ACL and landings below TAL since 2011, except for in 2017-2019 (Figure 20, Table 16).

Figure 20. ABC, TAL, landings, and discards (mt), 2011-2021



Note: Landings and discards are calendar year data from the assessment. ABC and TAL are the FY specifications.

5.5.3 Revenue

Monkfish fishery revenue has generally declined in recent years, from $42.2M in CY 2005 to $10.3M in CY 2021 (Table 20, not adjusted for inflation). Since at least CY 2011, about half of this revenue is from trips where monkfish was over 50% of total revenue (Table 21). There is a declining number of vessels that had trips where the monkfish revenue was over 50% of total revenue, from 206 in CY 2011 to 76 in CY 2021. CY 2020 and 2021 were particularly low revenue years. On trips where a monkfish DAS was used in FY 2021 (Table 22), 61% of the revenue was from monkfish, 17% from skate, 13% from groundfish, and minor components of the revenue from other species. Monkfish price per live pound has been on a declining trend since 2010, though prices have been increasing within the last year (Figure 21). Seasonally, prices tend to be lower in spring to summer months and higher in fall to winter.

Table 20. Total monkfish revenue, CY 2005 – 2021.

Calendar Year	Revenue	Calendar Year	Revenue
2005	$42.2M	2014	$18.7M
2006	$38.0M	2015	$19.1M
2007	$28.9M	2016	$20.0M
2008	$27.2M	2017	$18.4M
2009	$19.6M	2018	$14.8M
2010	$19.2M	2019	$14.5M
2011	$26.6M	2020	$9.3M
2012	$27.1M	2021	$10.3M
2013	$18.7M		

Source: ACCSP data, accessed April 2022.
Note: Revenues not adjusted for inflation.

Table 21. Monkfish revenue and revenue dependence on trips where over 50% of revenue is from monkfish, CY 2011 – 2021.

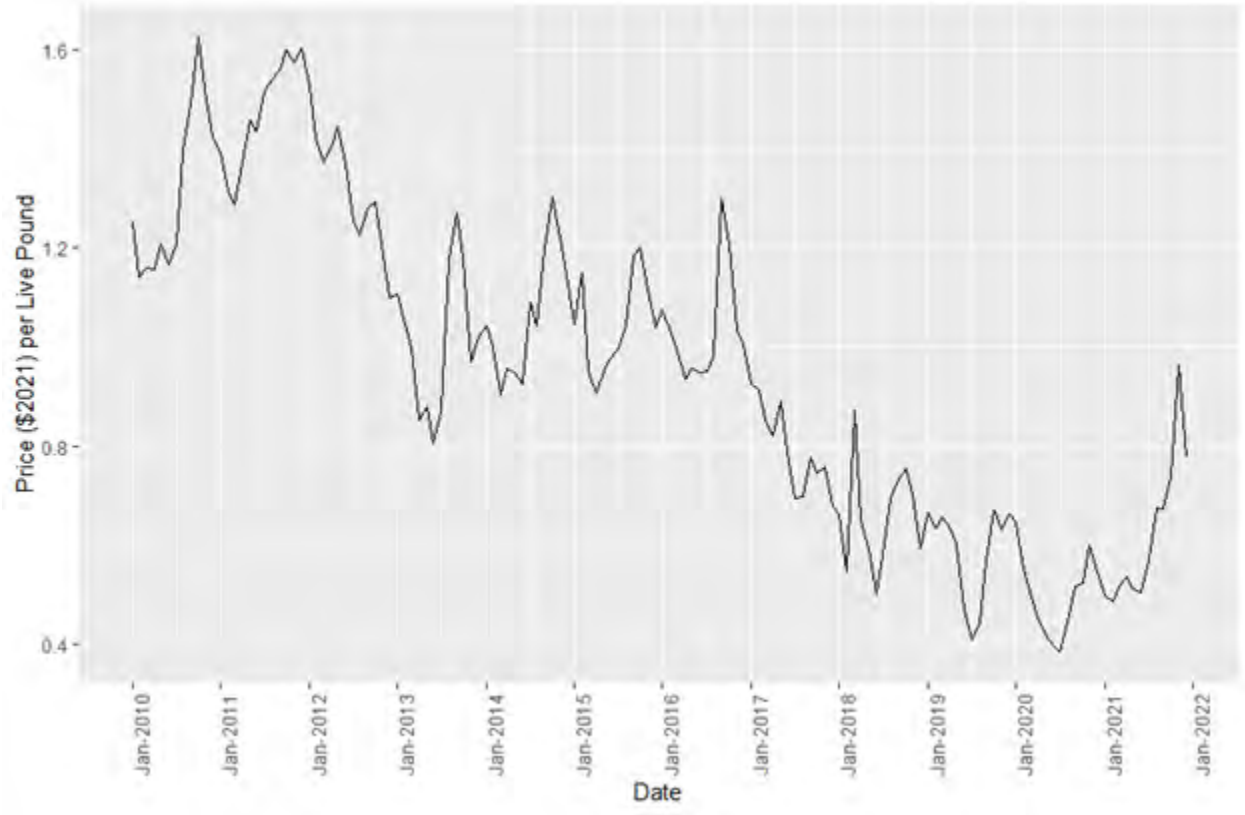
Calendar Year	Vessels	Monkfish Revenue		Non-Monkfish Revenue		Total Revenue	% Monkfish
		Total	Per vessel	Total	Per vessel		
2011	206	$16,517,143	$80,180	$3,354,458	$16,284	$19,871,601	83%
2012	196	$15,138,030	$77,235	$3,339,764	$17,040	$18,477,794	82%
2013	164	$8,994,464	$54,844	$2,414,798	$14,724	$11,409,262	79%
2014	173	$9,307,800	$53,802	$3,042,854	$17,589	$12,350,654	75%
2015	140	$9,319,537	$66,568	$2,286,111	$16,329	$11,605,648	80%
2016	127	$9,654,776	$76,022	$1,957,503	$15,413	$11,612,280	83%
2017	135	$9,471,858	$70,162	$2,545,266	$18,854	$12,017,124	79%
2018	108	$7,001,537	$64,829	$1,660,777	$15,378	$8,662,314	81%
2019	96	$7,021,724	$73,143	$1,912,752	$19,924	$8,934,476	79%
2020	70	$2,700,687	$38,581	$995,332	$14,219	$3,696,019	73%
2021	76	$3,611,791	$47,524	$1,057,492	$13,914	$4,669,283	77%

Source: NEFSC SSB. *Note:* Revenues adjusted to 2021 USD.

Table 22. Landings and revenue dependence from monkfish and other fisheries on trips where a Monkfish DAS was used, FY 2021.

	Live pounds	Revenue	
Monkfish	3,507,169	$2,464,974	61%
Skate	3,382,423	$699,805	17%
Groundfish	270,948	$542,289	13%
Dogfish	75,295	$21,890	1%
Other	70,806	$308,774	8%
Total	**7,306,641**	**$4,037,732**	**100%**
Source: GARFO/APSD, accessed January 2023. Note: Includes trips where only a monkfish DAS is used and trips where a monkfish DAS and other DAS are used.			

Figure 21. Monthly monkfish price ($2021) per live pounds, 2010 – 2021.



Source: NEFSC SSB, July 2022. *Note:* Revenues adjusted to 2021 USD.

5.5.4 Fishing Effort

Effort controls such as Days-at-Sea (DAS) and possession limits help ensure that the fishery landings remain within the TAL. Framework 10 established the possession limits and DAS allocations for FY 2017-2019, and these remain unchanged through FY 2022.

5.5.4.1 Day-at-Sea (DAS)

DAS use. DAS allocations have remained the same since FY 2017 (Framework 10). Limited access vessels are allocated 35 monkfish DAS per fishing year to use in the NFMA and 37 DAS to be used in the SFMA. Additionally, vessels are prohibited from using more than 46 total allocated DAS annually. The number of monkfish DAS used each year is far below what is allocated, suggesting a substantial amount of latent effort in the monkfish fishery. An average of 575 permits were allocated DAS between FY 2019 – 2021, with permit categories C and D accounting for the greatest number of vessels and DAS (Table 23). DAS use varies with permit category. Of the Category A and B permit vessels, 52-64% used at least one DAS in FY 2019-2020, but that decreased to 28-38% in FY 2021. The Category C and D vessels had more stable participation, but was generally lower, 4-18% these past three years.

Table 23. Monkfish DAS usage, combined management areas and all vessels with a limited access monkfish permit, FY 2019 – FY 2021.

Permit Category	All Vessels			Vessels that used ≥ 1 DAS
	Total Vessels	DAS Allocated	DAS Used	
FY 2019				
A	21	909	385	11 (52%)
B	39	1,689	750	25 (64%)
C	273	11,821	583	24 (9%)
D	238	10,305	850	42 (18%)
FY 2020				
A	15	650	193	9 (60%)
B	37	1,602	444	23 (62%)
C	268	11,604	334	17 (6%)
D	229	9,916	490	32 (14%)
FY 2021				
A	18	779	130	5 (28%)
B	37	1,602	280	14 (38%)
C	255	11,042	177	11 (4%)
D	223	9,656	397	24 (11%)

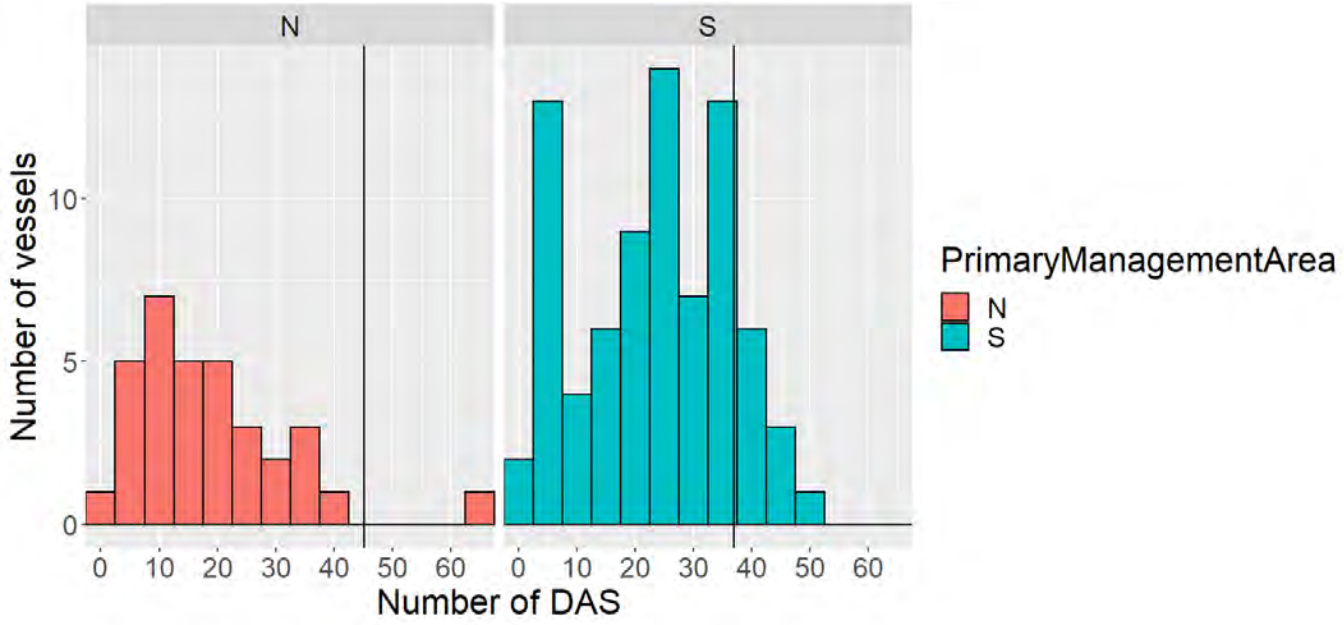
Notes: Permit categories F and H account for a minor number of permits, DAS allocated, and DAS used, thus, are not included in table.

Data include all vessels with a monkfish limited access permit (i.e., all activity codes).

Source: NMFS Vessel Permits and Allocation Management System (AMS) databases, accessed March 2022.

The use of the monkfish DAS allocation varies by vessel and fishing area. In FY 2019 and 2021, vessels that fished primarily in the NFMA used fewer monkfish DAS relative to vessels fishing primarily in the SFMA, despite the 37 DAS use restriction in the SFMA (Figure 22). Some of the vessels fishing primarily in the SFMA vessels exceeded the 37 DAS use restriction, but some of these vessels also took trips in the NFMA, where there is no DAS use restriction. For vessels fishing primarily in the NFMA, one vessel used more than the 45.2 DAS allocated. For primarily SFMA vessels, 12 vessels used more than 37 DAS and 2 used more than 45.2.

Figure 22. Frequency of monkfish DAS use by vessels allocated monkfish DAS, FY 2019 and FY 2021 average.



Notes: Black vertical line represents annual DAS allocations that can be used in the NFMA (45.2) and the SFMA (37). Each vessel was binned into one management area based on where most of its trips occurred.

Source: CAMS database. Accessed October 2022.

FY 2021, 2019 monkfish landings by trip declaration.

Although use of a monkfish DAS is required for landing more than incidental amounts of monkfish, a substantial amount of monkfish landings occur on the incidental trips, particularly in the NFMA. An average of FY 2021 and FY 2019 performance is used to illustrate this. In the NFMA, the most trips and about 86% of the monkfish landings were on trips that did not use a monkfish DAS (Table 24). In the SFMA, vessels using a monkfish DAS accounted for the most trips and 73% of the monkfish landings.

In the NFMA, most of the monkfish landings are on trips using a Northeast (NE) multispecies DAS. Vessels with a Category C and D monkfish permit that also has a limited access NE multispecies DAS permit can declare a monkfish DAS while at sea in the NFMA if they are fishing on a NE multispecies DAS and declare the "monkfish option" prior to leaving port at the start of its trip. When these vessels do not declare a monkfish DAS, their monkfish landings are constrained by a possession limit (900 lb and 750 lb tail weight for Category C and D, respectively, per NE multispecies used; Table 27). If these vessels do select the "monkfish option" while at sea, then they declare and use a monkfish DAS and do not have a monkfish possession limit (unlimited). Trips using a multispecies DAS but not a monkfish DAS accounted for 85% (8.4M lb) of the NFMA monkfish landings, averaged over FY 2019 and FY 2021. Trips using both a NE multispecies and monkfish DAS accounted for >14% (>1.35 M lb) that year. The vessels participating in the Northeast multispecies sector fishery accounted for the greatest amount of monkfish landings.

Besides the NE multispecies fishery, monkfish is landed in other fisheries without a monkfish DAS declaration: declared out of fishery (DOF), scallop, herring, surfclam/ocean quahog/mussel, squid/mackerel/butterfish, and undeclared (Table 24). Out of these fisheries, trips that are DOF or use only a scallop DAS account for the greatest amount of landings.

Table 24. Monkfish landings and total number of vessels and trips by trip declarations (plan code) and DAS used, average across FY 2019 and FY 2021. Orange highlights indicate trips where monkfish was landed without a monkfish DAS.

Declaration/ Plan Code	Program Code Description	DAS used	Whole weight, live lb (mt in parentheses)	# of Vessels	# of Trips
NORTH					
Monkfish	*Monkfish Northern Management Area Common Pool Vessel Trip*	Monkfish and Northeast Multispecies	C	C	C
	Monkfish Northern Management Area Sector Vessel Trip	Monkfish and Northeast Multispecies	1,347,155 (611)	21	222
	Monkfish Northern Management Area Monkfish-Only Vessel Trip	Monkfish	26,851 (12)	6	20
Northeast Multispecies	*Multispecies Common Pool Vessel Trip*	Northeast Multispecies	55,255 (25)	5	100
	Multispecies Sector Vessel Trip	Northeast Multispecies	8,289,963 (3,760)	99	2,992
Scallop	*Special Access Area*	Scallop	43,979 (20)	20	28
	Limited Access General Category	Scallop	17,145 (8)	19	223
	Limited Access	Scallop	12,611 (6)	7	11
Other	*Herring; undeclared; surfclam, ocean quahog, mussel; squid, mackerel, butterfish*	-	61,447 (28)	22	469
Declared out of Fishery (DOF)		-	10,820 (5)	11	32
NORTH Landings Total			**> 9,865,226 (4,475)**		

SOUTH					
Monkfish	*Monkfish Southern Management Area Common Pool Vessel Trip*	Monkfish and Northeast Multispecies	62,203 (28)	5	25
	Monkfish Southern Management Area Sector Vessel Trip	Monkfish and Northeast Multispecies	493,536 (224)	15	178
	Monkfish Southern Management Area Monkfish-Only Vessel Trip	Monkfish	3,200,563 (1,452)	50	1,183
Northeast Multispecies	*Multispecies Common Pool Vessel Trip*	Northeast Multispecies	50,555 (23)	14	145
	Multispecies Sector Vessel Trip	Northeast Multispecies	100,963 (46)	27	482
Scallop	*Special Access Area*	Scallop	168,319 (76)	91	210
	Limited Access General Category	Scallop	87,994 (40)	56	986
	Limited Access	Scallop	145,156 (66)	69	106
Other	*Herring, undeclared, surfclam/ocean quahog/mussel and squid/mackerel/butterfish*	-	575,484 (261)	243	2,195
DOF		-	293,271 (133)	152	2,094
		SOUTH Landings Total	**5,178,044 (2,349)**		

Notes:

- C = confidential, < 3 vessels. The 'Total' number of vessels is not the sum of the columns but the sum of the unique vessels.
- In the "Other" rows, data for undeclared trips include incidental landings, which do not require any declaration.
- The total monkfish landings from this table differs slightly from Table 17 likely due to differences in data source (CAMS versus quota monitoring), requirement of having a monkfish permit category associate with monkfish landings in Table 25, and when the data were pulled.
- Data do not include RSA trips; DOF includes scientific and other research trips.

Source: CAMS database. Accessed November 2022.

5.5.4.2 Possession Limits

There are multiple monkfish possession limits depending on whether the vessel has a limited access or open access incidental monkfish permit, the specific permit category, whether a monkfish DAS is being used, and if so, whether the monkfish DAS is used alone or in combination with DAS for other fisheries (Table 25, Table 26).

Monkfish Possession Limits while on a Monkfish DAS

Table 25. NFMA FY 2020-2022 monkfish limited access possession limits while fishing on a monkfish DAS.

Monkfish Permit Category	Description	FY 2020-2022 Monkfish Possession Limits (lb)	Previous Possession Limits
A	Only monkfish DAS	1,250 lb tail weight 3,638 lb whole weight	No change since at least FY 2011.
B		600 lb tail weight 1,746 lb whole weight	
C	Only monkfish DAS	1,250 lb tail weight 3,638 lb whole weight	
	Monk DAS & NE Mults A or Scallop DAS	Unlimited	FW9 (FY16): eliminated limit; No change since then.
D	Only monkfish DAS	600 lb tail weight 1,746 lb whole weight	No change in since at least FY 2011.
	Monk DAS & NE Mults A or Scallop DAS	Unlimited	FW9 (FY16): eliminated limit; No change since then.

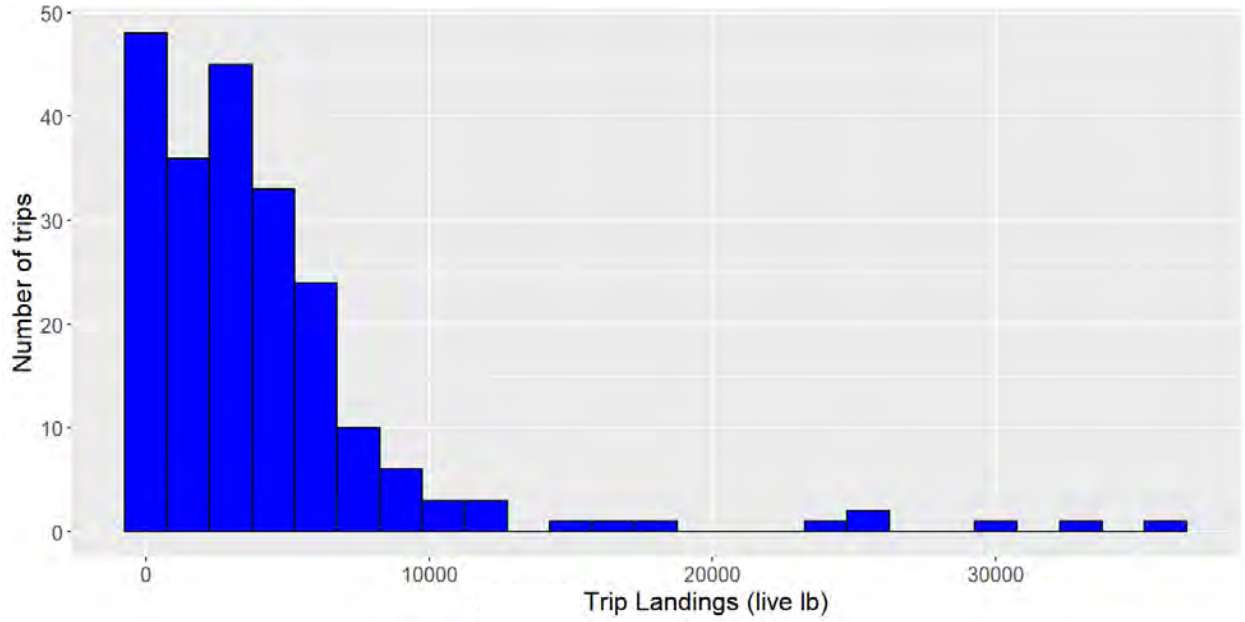
Table 26. SFMA FY 2020-2022 monkfish limited access possession limits while fishing on at least a monkfish DAS.

Monkfish Permit Category	Description	FY 2020-2022 Monkfish Possession Limits (lb)	Previous Possession Limits
A	Only monkfish DAS	700 lb tail weight 2,037 lb whole weight	No change since FY 2017.
B		575 lb tail weight 1,673 lb whole weight	
C	Only monkfish DAS	700 lb tail weight 2,037 lb whole weight	
	Monk DAS & NE Mults A or Scallop DAS	700 lb tail weight 2,037 lb whole weight	
D	Only monkfish DAS	575 lb tail weight 1,673 lb whole weight	
	Monk DAS & NE Mults A or Scallop DAS	700 lb tail weight 2,037 lb whole weight	
F	Seasonal offshore monkfish fishery in SFMA (Oct. 1-April 30)	1,600 lb tail weight 4,656 lb whole weight	No change since at least FY 2011.
H	SFMA only	575 lb tail weight 1,673 lb whole weight	No change since FY 2017.

Vessels that use both a Northeast Multispecies (NE) DAS and a monkfish DAS in the NFMA have an unlimited monkfish possession limit. FY 2021, 16 vessels took at least one trip that used both DAS, taking a total of 208 trips, landing an average of 8,554 lb (whole weight) of monkfish per trip, with a

range from 603 lb to 36,212 lb, whole weight (Figure 23, Table 24). There is no monkfish landing limit for these trips.

Figure 23. Frequency of trip landings while using both a monkfish and Northeast Multispecies DAS, FY 2021.



Source: CAMS database. Accessed October 2022.

Incidental Possession Limits. To land incidental amounts of monkfish from federal waters, vessels must have a federal monkfish permit and not fish on a monkfish DAS. Incidental monkfish can be caught while on a Northeast Multispecies DAS, on a Scallop DAS or in the Sea Scallop Access Area Program, not under a DAS Program, and not under a DAS program that also hold permits in other fisheries/special cases. Incidental possession limits vary by trip type, gear, and management area (Table 27).

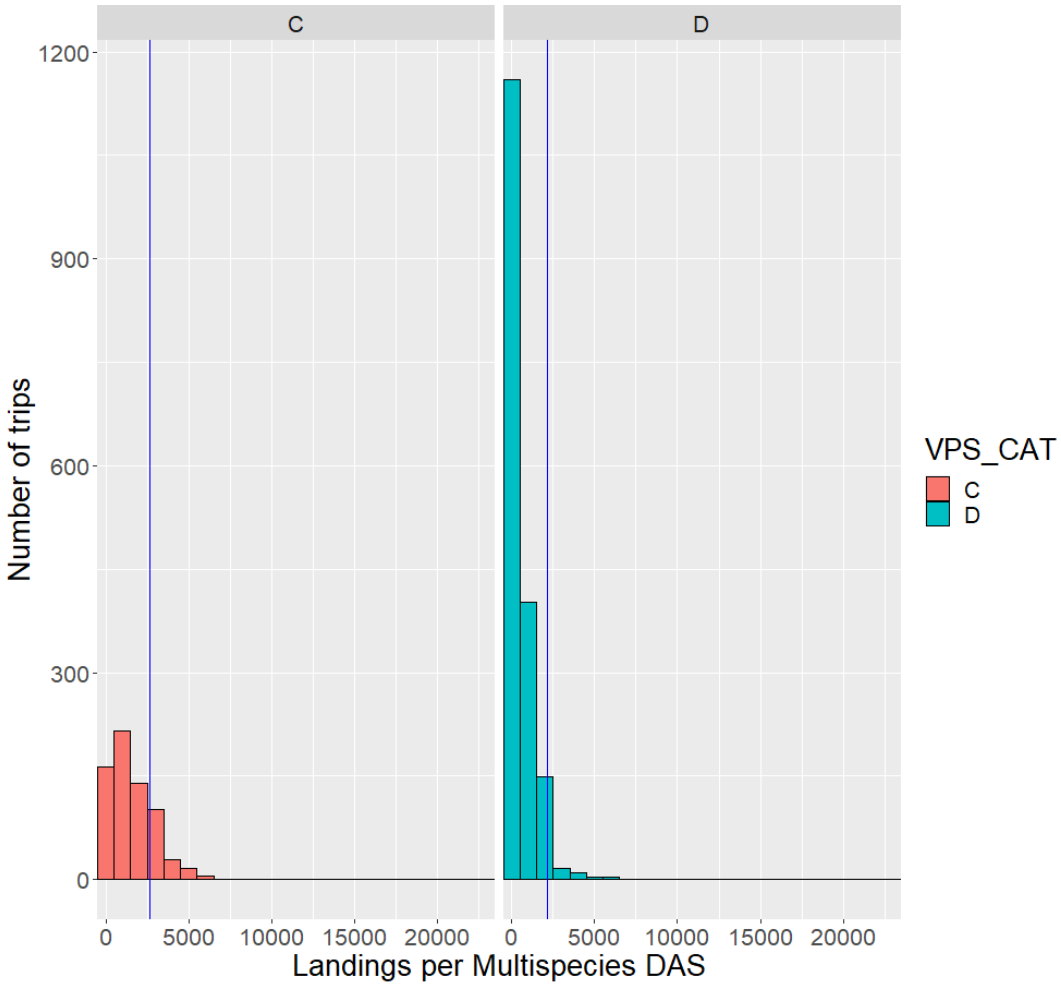
Vessels have the flexibility to land over the incidental limit when fishing on a Northeast Multispecies A DAS (e.g., a sector trip) if the vessel fishes only in the NFMA and declares the 'monkfish option' on the VMS unit before leaving port. If the vessel "flexes" the monkfish option during the trip (e.g., when landings exceed the incidental limit), then the vessel is charged both a Monkfish and NE Multispecies DAS and this is considered a directed monkfish trip. If the vessel selects the monkfish option prior to leaving port but does not flex on that option, then the vessel can only land incidental amounts of monkfish.

Table 27. Monkfish incidental possession limits by management area, gear, and permit category. Source: GARFO.

Incidental Possession Limit Category			Management Area	Incidental Possession Limits by gear, permits
While on a NE Multispecies DAS			NFMA	*All gear* - 900 lb tail weight (2,619 lb whole weight; permit C), 750 lb (2,183 lb whole weight; permit D), up to 300 lb (permits E/F/H)
			SFMA	*Non-trawl* – 50 lb tail weight for permits C, D, H *Trawl* – 300 lb tail weight for permits C, D, H
While on a Scallop DAS or in the Sea Scallop Access Area Program			NFMA and SFMA	*All gear* - 300 lb tail weight
While not under a DAS Program	GOM, GB Reg. Mesh Areas			5% of total fish weight on board
	SNE Reg. Mesh Area			50 lb tail weight/day, up to 150 lb per trip
	MA Exemption Area			5% of total fish weight on board up to 450 lb tail weight
	NFMA or SFMA			50 lb tail weight/day, up to 150 lb per trip
	And fishing under skate bait Letter of Authorization		SNE Reg. Mesh Area	50 lb tail weight/day, up to 150 lb per trip
	And holds permits in other fisheries/special cases	NE Multispecies Small Vessel Permit	NFMA or SFMA	*All gear* - 50 lb tail weight/day, up to 150 lb per trip
		Surfclam or ocean quahog permit		*Hydraulic clam dredge or mahogany quahog dredge* - 50 lb tail weight/day, up to 150 lb per trip
		Sea scallop permit		*Scallop dredge only* - 50 lb tail weight/day, up to 150 lb per trip. *If in scallop dredge exemption areas* - 50 lb tail weight/trip

In FY 2021, most NFMA monkfish landings were from vessels participating in the NE Multispecies sector program using only a Northeast Multispecies DAS (10.1 M live lb, Table 24). These incidental trips were harvested by vessels using either a monkfish C or D permit category using either trawl or gillnet gear, thus, have incidental limits of 2,619 lb and 2,183 lb whole weight per Northeast Multispecies DAS used (Table 27). The average incidental landings per Multispecies DAS used were 1,638 lb and 573 lb whole weight for permit category C and D, respectively (Figure 24). Most monkfish landings while only on a NE Multispecies DAS were less than the possession limits, however, some trips did exceed these limits (Table 28).

Figure 24. Frequency of monkfish landings per Northeast Multispecies DAS in the NFMA for permit categories C and D, FY 2021.



Notes: Blue vertical lines represent trip possession limits while using a Northeast multispecies DAS in the NFMA (2,619 lb for permit C and 2,183 lb for permit D, whole weight).
RSA trips were removed.
Source: CAMS and discard modules, November 2022.

Table 28. Monkfish landings (lb, whole weight) under and over incidental trip limits while using and not using a Northeast Multispecies DAS, by permit category, FY 2021.

Permit Category	Trips using NE Mult. DAS					Trips not using NE Mult. DAS (undeclared or NE Mult. sector or common pool)*	
	Trips landing < incidental limit		Trips landing > incidental trip limits				
	Total Landings	# Trips	Total Landings	Landings in excess**	# Trips	Total Landings	# Trips
C	5,242,947	620	196,625	49,961	56	1,098,745	251
D	2,171,167	1,674	243,711	59,392	72	877,139	750
TOTAL	7,414,116	2,294	440,336	109,353	128	1,975,884	1,001

Notes: RSA trips were removed from data.

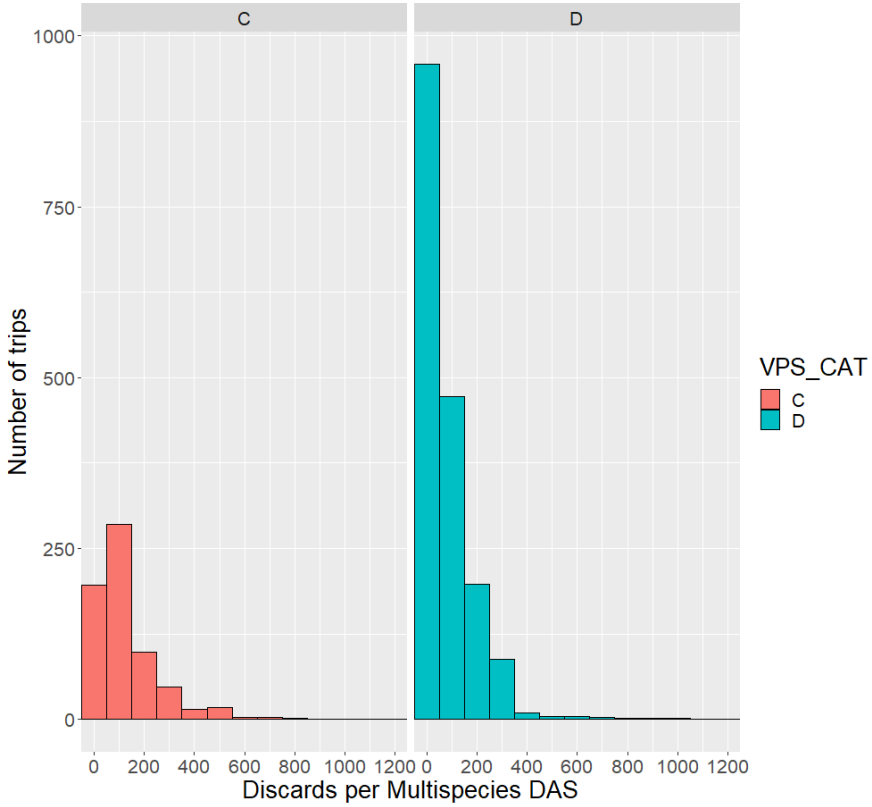
* These are either undeclared or NE Multispecies sector or common pool trips where a DAS is not required. These trips have incidental possession limits (146 lb whole weight per day, not to exceed 437 lb whole weight per trip). ~30% of these trips are landing over the incidental amount, landing 888,504 lb whole weight in excess, but some of these trips are Exempted Fishing Permit trips which have different possession limits.

** Only includes the landings more than the incidental possession limits (i.e., does not include the incidental landings legally allowed).

Source: CAMS and discard modules, November 2022.

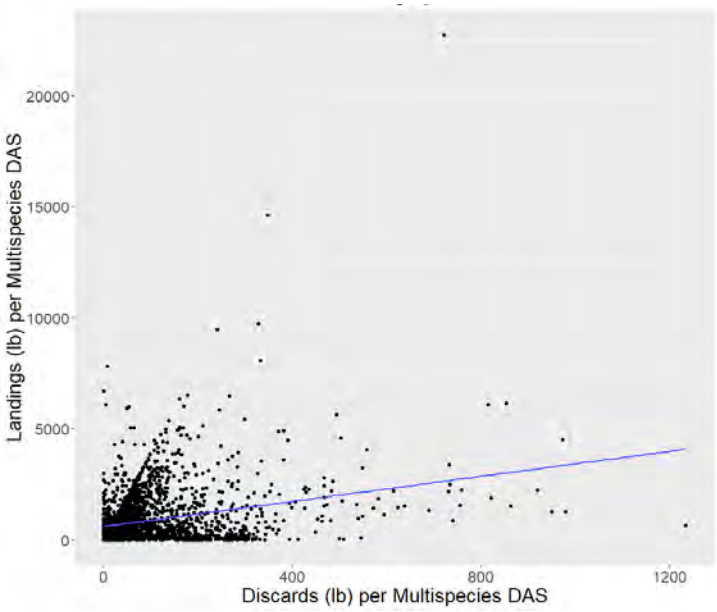
When on a NE Multispecies DAS, vessels discarded about 80 to 129 lb (whole weight) per NE Multispecies DAS used, depending on whether a D or C permit category was used, respectively (Figure 25). The amount of discarding appears to increase as landings increase (Figure 26).

Figure 25. Frequency of trip discards per NE Multispecies DAS, by permit category, FY 2021.



Notes: RSA trips were removed.
Source: CAMS and discard modules, November 2022.

Figure 26. Discards as a function of landings (lb, whole weight), per NE Multispecies DAS in FY 2021.



Notes: RSA trips were removed. Blue line indicates a trend line.
Source: CAMS and discard modules, November 2022.

5.5.5 Fishing Communities

Consideration of the social and economic impacts on fishing communities of proposed fishery regulations is required by the National Environmental Policy Act of 1969, as Amended (NEPA 1969) and the Magnuson-Stevens Fishery Conservation and Management Act, particularly National Standard 8 (MSA 2007) which defines a "fishing community" as "a community which is substantially dependent on or substantially engaged in the harvesting or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community" (16 U.S.C. § 1802(17)). Here, "fishing communities" include communities with a substantial involvement in or dependence on the monkfish fishery.

5.5.5.1 Monkfish Fishing Communities Identified

Primary and secondary monkfish fishing ports are identified for the Monkfish FMP. Based on the criteria below, there are six primary ports in the fishery (Table 29). Of these, the highest revenue ports are New Bedford, Gloucester, and Boston, MA (Table 30). There are 14 secondary ports. The primary and secondary ports comprised 66% and 28% of total fishery revenue, respectively, during 2010-2019. There are 138 other ports that have had more minor participation (6%) in the fishery recently. More community information is available from the NEFSC Social Sciences Branch website and in Clay et al. (2007).

Primary Port Criteria. The monkfish fishery primary ports are those that are substantially engaged in the fishery. The primary ports meet at least one of the following criteria:

1. At least $1M average annual revenue of monkfish during 2010-2019, or
2. Ranking of very high (factor score ≥ 5)[2] for engagement in the monkfish fishery on average in 2016-2020, using the NOAA Fisheries Community Social Vulnerability Indicators (Table 29).

Secondary Port Criteria. The monkfish fishery secondary ports are involved to a lesser extent. The secondary ports meet at least one of the following criteria:

- At least $100,000 average annual revenue of monkfish, 2010-2019, or
- A ranking of high (factor score 1-4.99) for engagement in the monkfish fishery on average in 2016-2020, using the NOAA Fisheries Community Social Vulnerability Indicators (Table 30).

Table 29. Primary and secondary ports in the monkfish fishery.

State	Port	Average revenue 2010-2019		Monkfish Engagement, 2016-2020		Primary/ Secondary
		>$100K	>$1M	High	Very High	
ME	Portland	√		√		Secondary
NH	Portsmouth	√		√		Secondary
MA	Gloucester		√		√	Primary
	Boston		√		√	Primary
	Scituate	√		√		Secondary
	Chatham	√		√		Secondary
	Harwichport	√		√		Secondary
	New Bedford		√		√	Primary
	Westport	√		√		Secondary
RI	Little Compton	√		√		Secondary
	Newport	√		√		Secondary
	Narragansett/Point Judith		√		√	Primary
CT	New London	√		√		Secondary
NY	Montauk	√			√	Primary
	Hampton Bays/ Shinnecock	√		√		Secondary
NJ	Point Pleasant	√		√		Secondary
	Barnegat Light/Long Beach		√	√		Primary
	Cape May			√		Secondary
VA	Chincoteague	√				Secondary
	Newport News			√		Secondary

Table 30. Fishing revenue (unadjusted for inflation) and vessels in top Monkfish ports by revenue, calendar years 2010 – 2019.

Port	Average revenue, 2010-2019			Total active monkfish vessels, 2010-2019
	All fisheries	Monkfish only	% Monkfish	
New Bedford, MA	$368,627,420	$4,240,639	1%	**479**
Gloucester, MA	$48,514,248	$2,924,748	6%	**190**
Boston, MA	$15,999,540	$1,809,192	11%	**44**
Pt. Judith, RI	$47,753,305	$1,604,760	3%	**214**
Long Beach, NJ	$26,124,402	$1,459,529	6%	**74**
Chatham, MA	$11,764,003	$817,736	7%	**57**
Little Compton, RI	$2,398,385	$802,384	33%	**31**
Montauk, NY	$17,192,554	$726,690	4%	**116**
Hampton Bay, NY	$5,746,477	$578,235	10%	**64**
Portland, ME	$24,798,943	$559,798	2%	**71**
Other (n=146)	$368,846,866	$3,750,338	1%	
Total	**$937,766,141**	**$19,274,049**	**2%**	

Source: NMFS Commercial Fisheries Database (AA data), accessed April 2022.
Note: "Active" defined as landing > 1 lb of monkfish.

The Engagement Index can be used to determine trends in a fishery over time. Those ports with very high monkfish engagement in 2016-2020, generally had very high engagement in 2006-2010 and 2011-2015, except for Boston, MA, which had increasing engagement over this time (Table 31). There are 14 ports that have had high or very high engagement during all three periods, indicating a stable presence in those communities. Annual data on port engagement is available at the Commercial Fishing Performance Measures website.

Table 31. Changes in monkfish fishery engagement over time for all ports with high engagement during at least one year, 2006 – 2020.

State	Community	Engagement Index			
		2006-2010	2011-2015	2016-2020	2020 only
ME	Portland	High	High	High	High
NH	Portsmouth	High	Med.-High	High	High
MA	Gloucester	Very High	Very High	Very High	Very High
	Boston	High	High	Very High	Very High
	Scituate	High	High	High	High
	Chatham	High	High	High	High
	Harwichport	Medium	Medium	High	High
	New Bedford	Very High	Very High	Very High	Very High
	Westport	Med.-High	High	High	Med.-High
RI	Tiverton	Med.-High	Medium	Medium	Medium
	Little Compton	High	High	High	High
	Newport	High	High	High	High
	Narragansett/Pt. Judith	Very High	Very High	Very High	Very High
CT	Stonington	Med.-High	Med.-High	Med.-High	High
	New London	Med.-High	High	High	High
NY	Montauk	Very High	Very High	Very High	High
	Hampton Bays/Shinnecock	High	High	High	High
NJ	Point Pleasant	High	High	High	High
	Barnegat Light/Long Beach	Very High	Very High	High	High
	Cape May	High	High	High	High
MD	Ocean City	High	High	Med.-High	Med.-High
VA	Chincoteague	High	High	Medium	Medium
	Newport News	Med.-High	High	High	High
NC	Wanchese	High	Med.-High	Med.-High	Med.-High
	Beaufort	Medium	Med.-High	Med.-High	Medium

Source: http://www.st.nmfs.noaa.gov/humandimensions/social-indicators/index.

Landings by state

During CY 2012-2021, monkfish were landed in 11 states, mostly in Massachusetts (61%), followed by Rhode Island (13%), and New Jersey (9%, Table 32). Massachusetts continues to account for the greatest proportion of all monkfish landings.

Table 32. Monkfish landings by state, CY 2012 – 2021.

STATE	Monkfish landings (mt)											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total	
ME	488	115	257	345	243	178	219	170	411	442	**4,062**	4%
NH	57	86	74	38	50	68	123	119	175	213	**1,463**	2%
MA	5,247	3,812	4,972	4,303	4,227	4,581	5,067	5,943	6,306	6,057	**55,961**	61%
RI	1,303	1,598	2,122	1,495	1,488	1,819	1,648	1,560	1,412	2,306	**11,441**	13%
CT	347	305	457	547	724	380	464	275	246	324	**2,123**	2%
NY	841	766	1,059	1,183	773	748	827	1,193	829	1,005	**5,996**	7%
NJ	1,003	1,418	1,676	1,389	1,351	1,740	1,250	1,335	1,229	1,205	**7,946**	9%
DE	0										**0**	0%
MD	51	83	98	69	86	78	36	51	32	19	**285**	0%
VA	412	402	638	567	413	352	259	218	88	142	**1,748**	2%
NC	10	27	10	3	38	47	56	33	36	20	**244**	0%
Total	**9,758**	**8,612**	**11,365**	**9,940**	**9,394**	**9,992**	**9,949**	**10,897**	**10,765**	**11,735**	**91,271**	**100%**

Source: ACCSP database, accessed April 2022.

5.5.5.2 Social and Gentrification Pressure Vulnerabilities

The NOAA Fisheries Community Social Indicators (see also Jepson & Colburn 2013) are quantitative measures that describe different facets of social and economic well-being that can shape either an individual's or community's ability to adapt to change. The indicators represent different facets of the concepts of social and gentrification pressure vulnerability to provide context for understanding the vulnerabilities of coastal communities engaged in and/or reliant on commercial fishing activities. Provided here are these indicators for the primary and secondary monkfish ports (Table 33).

Social Vulnerability Indicators. There are five social vulnerability indicators; the variables for which represent different factors that may contribute to a community's vulnerability. The **Labor force structure** index characterizes the strength/weakness and stability/instability of the labor force. The **Housing characteristics** index measures infrastructure vulnerability and includes factors that indicate housing that may be vulnerable to coastal hazards. The **Personal disruption** index represents factors that disrupt a community member's ability to respond to change because of personal circumstances affecting family life such as unemployment or educational level. The **Poverty** index is a commonly used indicator of vulnerable populations. The **Population composition** index shows the presence of populations who are traditionally considered more vulnerable due to circumstances often associated with low incomes and fewer resources. A high rank in any of these indicates a more vulnerable population.

Most monkfish port communities exhibited medium-high to high vulnerability in at least one of the five social vulnerability indicators. Across all monkfish ports, the highest indicator of vulnerability is labor force structure.

Gentrification Pressure Indicators. Gentrification pressure indicators characterize factors that, over time, may indicate a threat to the viability of a commercial or recreational working waterfront, including the displacement of fishing and fishing-related infrastructure. The **Housing Disruption** index represents factors that indicate a fluctuating housing market where some fishing infrastructure displacement may

occur due to rising home values and rents. The **Retiree migration** index characterizes areas with a higher concentration of retirees and elderly people in the population. The **Urban sprawl** index describes areas with increasing population and higher costs of living. A high rank in any of these indicates a population more vulnerable to gentrification.

Almost all monkfish ports scored medium-high to high in at least one of the three gentrification pressure indicators. This suggests that shoreside fishing infrastructure and fishing family homes may face rising property values (and taxes) from an influx of second homes and businesses catering to those new residents, which may displace the working waterfront. Across all monkfish ports, the highest indicator of vulnerability is housing disruption.

Combined Social and Gentrification Pressure Vulnerabilities. Overall, 11 of the 20 communities have medium to high levels of vulnerability for four or more of the eight indicators (combined social and gentrification pressure). This indicates high social and gentrification pressure vulnerability overall for both the primary and secondary communities. New Bedford, MA has six indicators at the medium to high level.

Table 33. Social vulnerability and gentrification pressure in monkfish ports, 2019.

State	Community	Social vulnerability					Gentrification pressure		
		Labor Force Structure	Housing Characteristics	Environmental Justice indicators			Housing Disruption	Retiree Migration	Urban Sprawl
				Personal Disruption	Poverty	Population Composition			
ME	Portland (s)	Low	Medium	Low	Medium	Low	Medium	Low	Medium
NH	Portsmouth (s)	Low	Low	Low	Low	Low	Med-High	Low	Medium
MA	Gloucester (p)	Low	Low	Low	Low	Low	Medium	Low	Medium
	Boston (p)	Low	Low	Medium	Med-High	Med-High	High	Low	High
	Scituate (s)	Low	Low	Low	Low	Low	Med-High	Low	Med-High
	Chatham (s)	High	n/a	Low	Low	Low	High	High	Low
	Harwichport (s)	High	Low	Low	Low	Low	Med-High	High	Low
	New Bedford (p)	Low	Med-High	Med-High	High	Med-High	Medium	Low	Med-High
	Westport (s)	Medium	Medium	Low	Low	Low	Medium	Medium	Medium
RI	Little Compton (s)	Medium	Low	Low	Low	Low	Med-High	Med-High	Medium
	Newport (s)	Low	Low	Low	Medium	Low	High	Low	Medium
	Narragansett/Pt. Judith (p)	Medium	Low	Low	Low	Low	Med-High	Medium	Low
CT	New London (s)	Low	Med-High	High	High	Med-High	Low	Low	Low
NY	Montauk (p)	Med-High	Low	Low	Low	Low	High	High	Med-High
	Hampton Bays/Shinnecock (s)	Low	Low	Low	Low	Med-High	High	Low	Medium
NJ	Point Pleasant (s)	Low	Low	Low	Low	Low	Medium	Low	Medium
	Barnegat Light/Long Beach (p)	High	n/a	Low	Low	Low	High	High	Medium
	Cape May (s)	Med-High	Medium	Low	Low	Low	High	Med-High	Low
VA	Chincoteague (s)	High	Med-High	Medium	Low	Low	Medium	Med-High	Low
	Newport News (s)	Low	Medium	Medium	Medium	Med-High	Low	Low	Low

Source: NOAA Fisheries Community Social Indicators.

*n/a indicates ranking is not available due to incomplete data. (p) = herring primary port. (s) = herring secondary port

SPINY DOGFISH FOCUS

Note: Based on fishery differences and public input over the years from affected communities, the two Councils take slightly different approaches in describing the interaction of a fishery and the relevant human communities, so Section 5.6 (monkfish focus) and 5.7 (spiny dogfish focus) differ in formatting.

5.5.6 Purpose

This section describes the performance of the spiny dogfish fishery to allow the reader to understand its socio-economic importance. Also see NMFS' communities page at: https://www.fisheries.noaa.gov/new-england-mid-atlantic/socioeconomics/socioeconomic-cultural-and-policy-research-northeast.

The most obvious way that human communities are affected by the fishery is from the revenues generated, and the jobs created. The affected communities include both individuals directly involved in harvesting and processing as well as indirect support services (e.g. vessel maintenance, insurance, ice, etc.). While the direct data points that are most available are landings and revenues, it is important to keep in mind that by contributing to the overall functioning of and employment in coastal communities, the fishery has indirect social impacts as well. Social impacts are strongly aligned with changes to fishing opportunities and while difficult to measure can include impacts to families from income changes/volatility, safety-at-sea (related to changes in fishery operations due to regulation changes), job satisfaction, and/or frustration by individuals due to management's impacts (especially if they perceive management actions to be unreasonable or ill-informed).

5.5.7 Recent Fishery Performance

This section establishes a descriptive baseline for the fishery with which to compare actual and predicted future socio-economic changes that result from management actions. The 2023 spiny dogfish Fishery Information Document and 2023 Spiny Dogfish Fishery Performance Report have details on recent commercial fishing activity, summarized below. These are available at https://www.mafmc.org/dogfish. There is negligible directed recreational effort/catch.

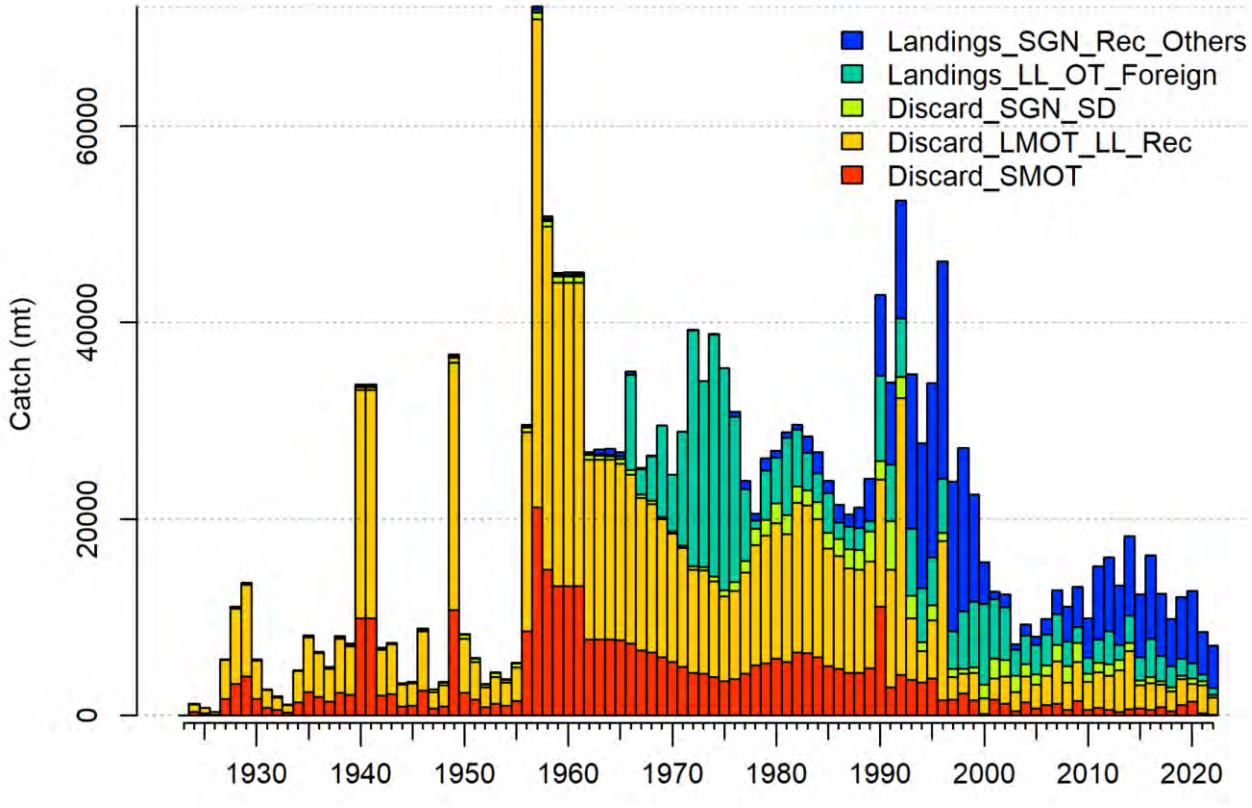
The NEFMC and MAFMC jointly manage spiny dogfish in federal waters (MAFMC has lead) and the ASMFC has a complementary state waters plan. Directed fishing was curtailed in 2000 when federal management began after overfishing in the 1990s led to an overfished finding. Examining vessels possessing any federal permit and landings of at least 10,000 pounds of spiny dogfish, during the initial rebuilding from 2001-2005, 29-68 vessels participated in the spin dogfish fishery. As abundance increased and fishing measures were liberalized, participation increased to a peak of 282 vessels in 2012. Participation has been declining since 2012, and 80 such vessels participated in the 2022 fishing year.

Figure 27 below, from the 2023 Assessment, describes spiny dogfish catch 1924-2022 and highlights the 1970s foreign fishery (teal color) and then domestication of the fishery in the 1990s (royal blue). Figure 28 to Figure 30 describe recent domestic landings, nominal ex-vessel revenues, and prices (inflation adjusted). Data since 1996 is more reliable than previous data due to improvements in reporting requirements. The Gross Domestic Product Implicit Price Deflator was used to report ex-vessel prices as "2022 dollars." Figure 31 illustrates preliminary weekly 2022 (yellow-orange) and 2023 (blue) landings through the year. Figure 32 displays locations of 2010-2021 NEFSC survey catches and VTR landings.

Recently most landings were in MA, VA, and NJ (Table 34). The fishery occurs throughout the year but is more focused north in the summer and south in the winter (Table 35). Most landings are made with

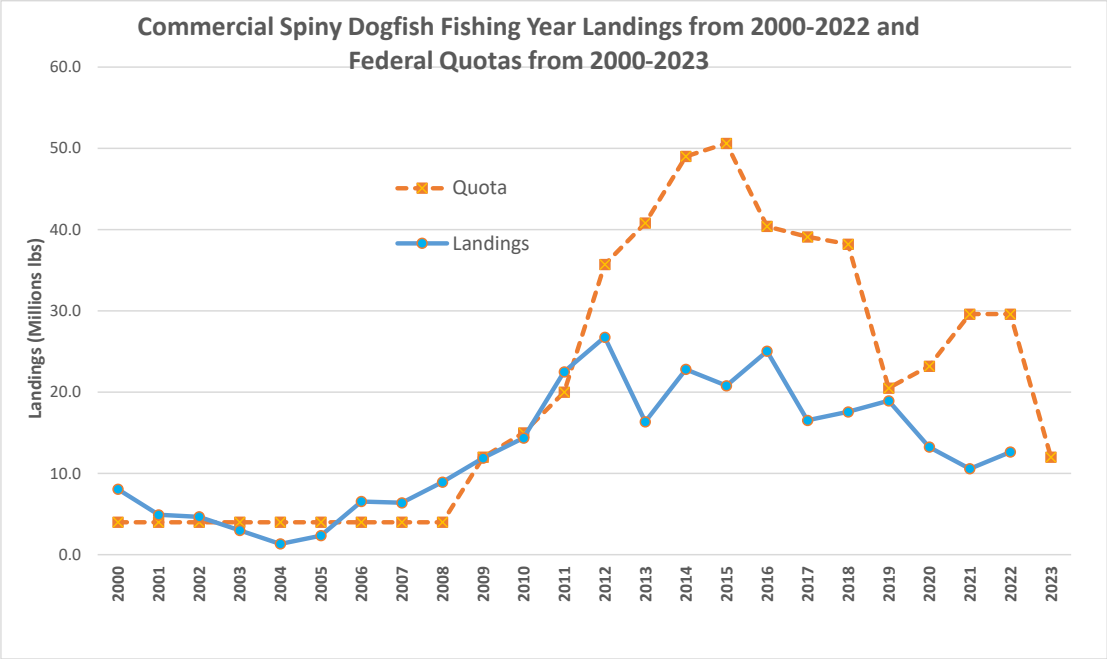
gillnet gear (Table 36). There has been a recent decline in the number of federally-permitted vessels participating (Table 37). Individual port data are not provided as it may violate the spirit of data confidentiality provisions even if not the letter of the law (an astute observer could potentially glean confidential data even if not obvious to some readers).

Figure 27. Spiny Dogfish Catches 1924-2022.



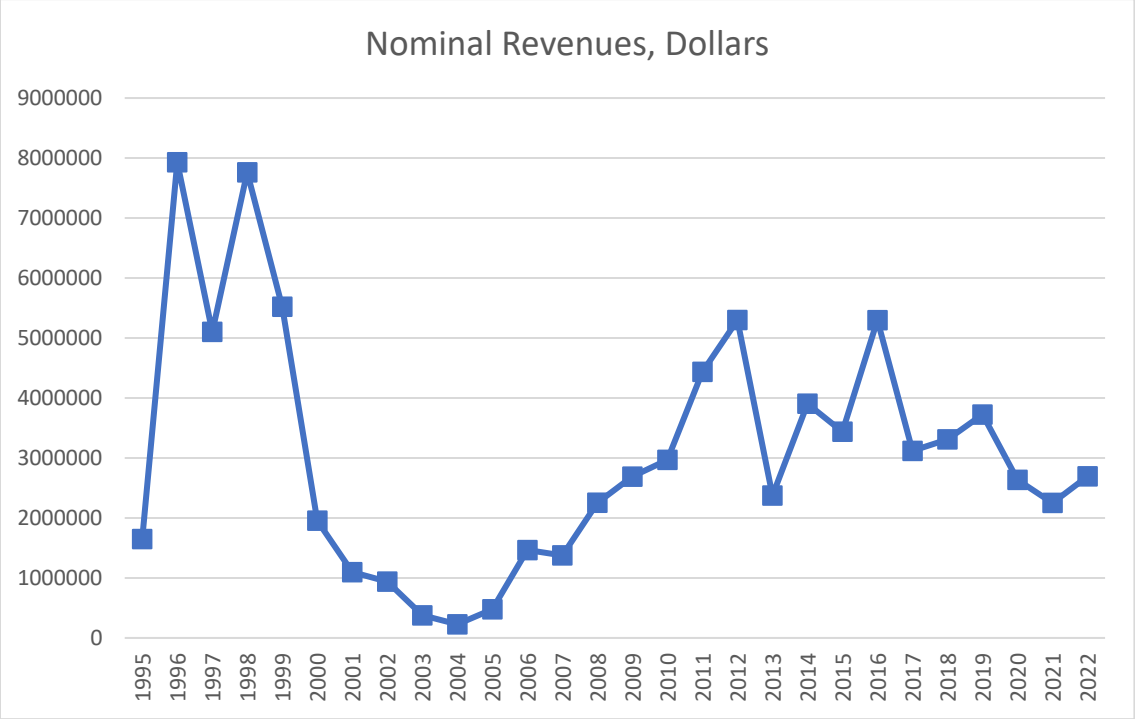
Source: 2023 Spiny Dogfish Management Track Assessment, available at https://apps-nefsc.fisheries.noaa.gov/saw/sasi.php.

Figure 28. U.S. Spiny Dogfish Landings and Quotas 2000-2023 fishing years.



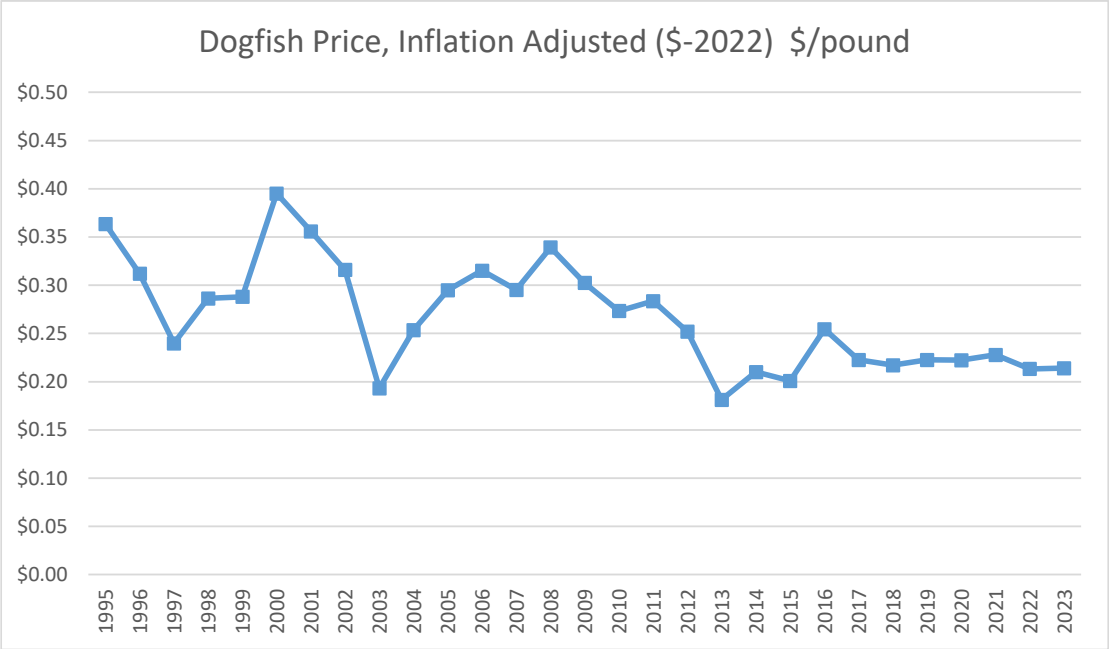
Source: NMFS unpublished dealer data.

Figure 29. Spiny Dogfish Ex-Vessel Revenues 1995-2022 fishing years, Nominal Dollars.



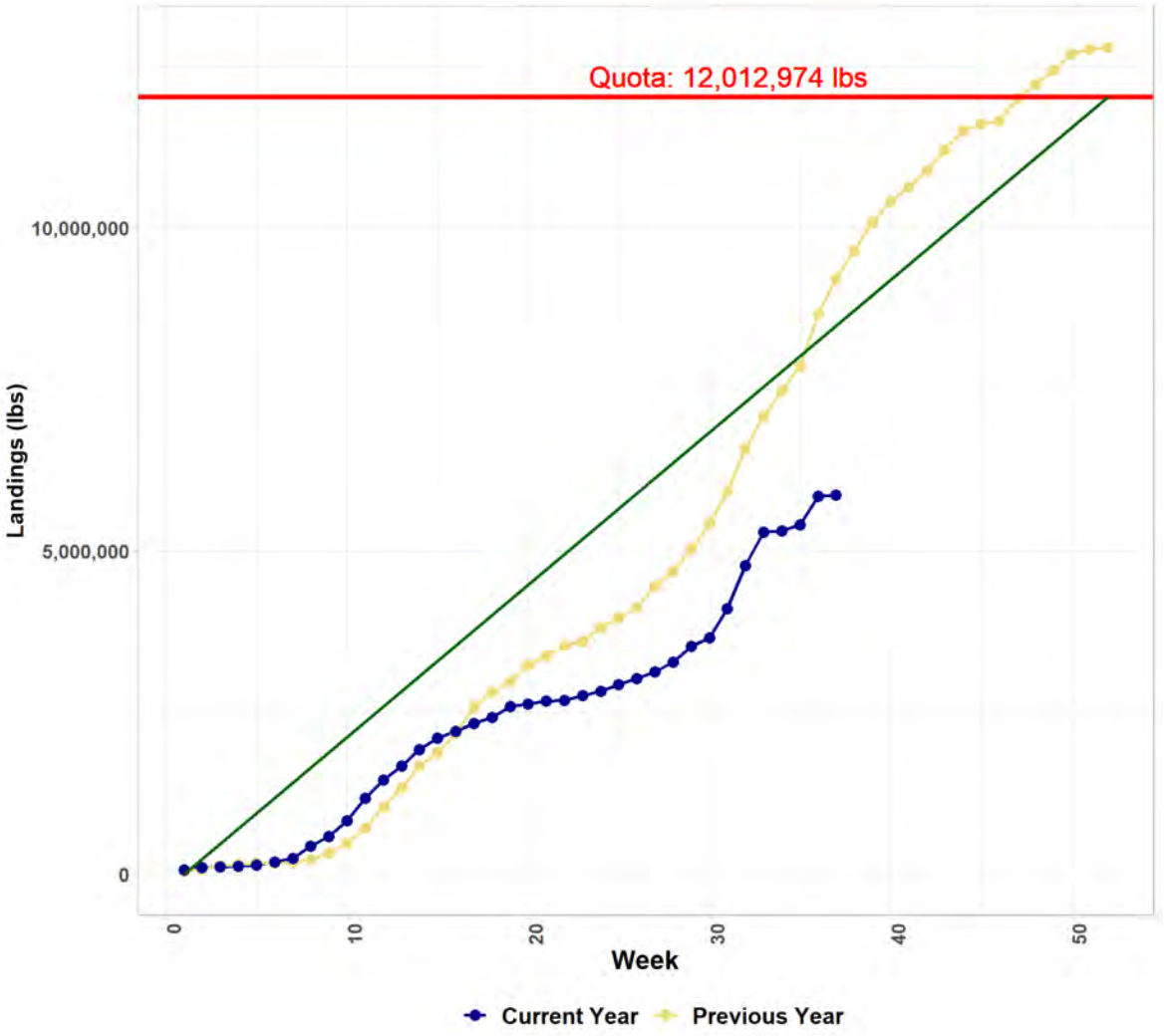
Source: Unpublished NMFS landings data.

Figure 30. Ex-Vessel Spiny Dogfish Prices 1995-2022 Adjusted to 2022 Dollars.



Source: NMFS unpublished dealer data.

Figure 31. U.S. Preliminary spiny dogfish landings; 2023 fishing year in dark blue, 2022 in yellow-orange.



Source: https://www.fisheries.noaa.gov/new-england-mid-atlantic/commercial-fishing/quota-monitoring-greater-atlantic-region. For data reported through 2024-01-17 Week 0 = May 1. 2023 fishing year quota noted (12.0 million pounds)

Figure 32. Survey and VTR Spiny Dogfish Catches 2010-2021 – Assessment – Jones 2022 Working Paper available at https://apps-nefsc.fisheries.noaa.gov/saw/sasi.php.

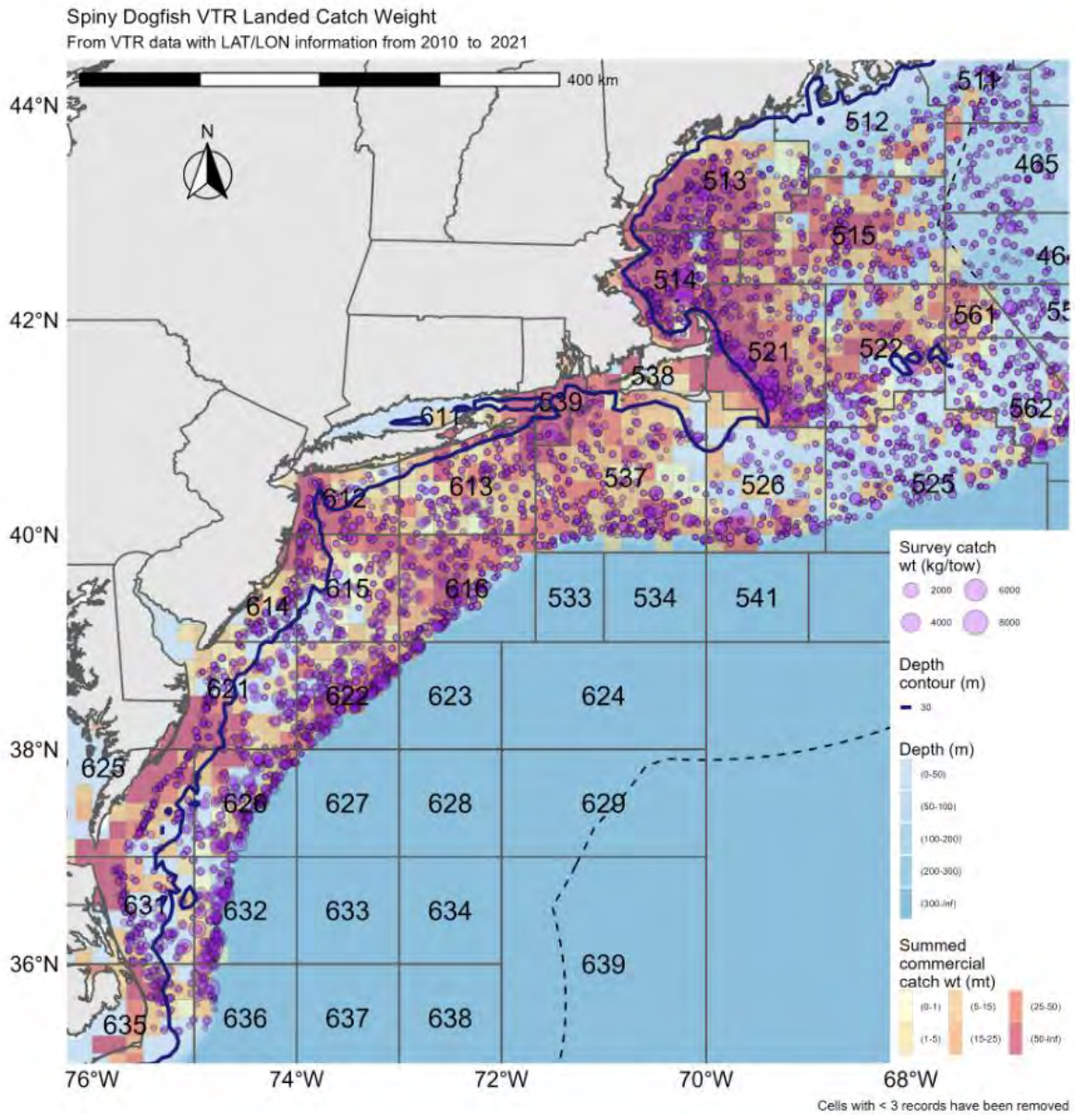


Table 34. Commercial Spiny Dogfish landings (live weight – millions of pounds) by state for 2020-2022 fishing years.

Year	MA	VA	NJ	Other (ME, NH, RI, CT, NY, MD, NC)	Total
2020	6.6	3.3	2.0	1.4	13.3
2021	3.8	4.0	1.6	1.2	10.6
2022	3.8	6.0	1.7	1.1	12.6

Source: NMFS unpublished dealer data.

Table 35. Commercial Spiny Dogfish landings (live weight – millions of pounds) by months for 2020-2022 fishing years.

Year	May-Aug	Sept-Dec	Jan-April	Total
2020	4.9	5.5	2.8	13.3
2021	2.9	4.6	3.1	10.6
2022	2.7	5.0	4.9	12.6

Source: NMFS unpublished dealer data. [2]

Table 36. Commercial Spiny Dogfish landings (live weight – millions of pounds) by gear for 2020-2022 fishing years.

Year	GILL_NET_SINK__OTHER	LONGLINE__BOTTOM	TRAWL_OTTER_BOTTOM_FISH	Unknown/Other	Total
2020	9.7	1.8	0.4	1.4	13.3
2021	9.2	0.5	0.3	0.6	10.6
2022	10.1	0.9	0.2	1.3	12.6

Source: NMFS unpublished dealer data. [2]

Table 37. Vessel participation over time in the Spiny Dogfish Fishery based on annual landings (pounds). Note: State-only vessels are not included.

YEAR	Vessels 200,000+	Vessels 100,000 - 199,999	Vessels 50,000 - 99,999	Vessels 10,000 - 49,999	Total with at least 10,000 pounds landings
2000	16	10	8	43	77
2001	4	12	10	33	59
2002	2	14	8	31	55
2003	4	5	3	17	29
2004	0	0	0	42	42
2005	0	0	1	67	68
2006	0	4	11	114	129
2007	1	2	21	72	96
2008	0	5	20	119	144
2009	0	11	42	166	219
2010	0	26	54	124	204
2011	1	48	73	135	257
2012	25	55	56	146	282
2013	10	27	45	87	169
2014	27	38	38	81	184
2015	31	33	36	59	159
2016	52	26	14	45	137
2017	28	27	24	32	111
2018	28	26	20	35	109
2019	29	25	21	29	104
2020	23	27	15	22	87
2021	15	27	11	26	79
2022	28	9	14	29	80

Source: NMFS unpublished dealer data.

6.0 ENVIRONMENTAL IMPACTS OF ALTERNATIVES

6.1 INTRODUCTION

The impacts of the alternatives under consideration are evaluated herein relative to the valued ecosystem components (VECs) described in the Affected Environment (Section 5.0) and to each other. This action evaluates the potential impacts described in terms of their direction (negative, positive, or no impact) and their magnitude (slight, moderate, or high) based on the guidelines shown in Table 38.

Table 38. General definitions for impacts and qualifiers relative to resource condition (i.e., baseline).

VEC	Resource Condition	Impact of Action		
		Positive (+)	Negative (-)	No Impact (0)
Target and Nontarget Species	Overfished status defined by the MSA	Alternatives that would maintain or are projected to result in a stock status above an overfished condition*	Alternatives that would maintain or are projected to result in a stock status below an overfished condition*	Alternatives that do not impact stock / populations
ESA-listed Protected Species (endangered or threatened)	Populations at risk of extinction (endangered) or endangerment (threatened)	Alternatives that contain specific measures to ensure no interactions with protected species (e.g., no take)	Alternatives that result in interactions/take of listed resources, including actions that reduce interactions	Alternatives that do not impact ESA listed species
MMPA Protected Species (not also ESA listed)	Stock health may vary but populations remain impacted	Alternatives that will maintain takes below PBR and approaching the Zero Mortality Rate Goal	Alternatives that result in interactions with/take of marine mammal species that could result in takes above PBR	Alternatives that do not impact MMPA Protected Species
Physical Environment / Habitat / EFH	Many habitats degraded from historical effort (see condition of the resources table for details)	Alternatives that improve the quality or quantity of habitat	Alternatives that degrade the quality, quantity or increase disturbance of habitat	Alternatives that do not impact habitat quality
Human Communities (Social and Economic)	Highly variable but generally stable in recent years (see condition of the resources table for details)	Alternatives that increase revenue and social well-being of fishermen and/or communities	Alternatives that decrease revenue and social well-being of fishermen and/or communities	Alternatives that do not impact revenue and social well-being of fishermen and/or communities
Impact Qualifiers				
A range of impact qualifiers is used to indicate any existing uncertainty	Negligible	To such a small degree to be indistinguishable from no impact		
	Slight (sl) as in slight positive or slight negative	To a lesser degree / minor		
	Moderate (M) positive or negative	To an average degree (i.e., more than “slight”, but not “high”)		
	High (H), as in high positive or high negative	To a substantial degree (not significant unless stated)		
	Significant (in the case of an EIS)	Affecting the resource condition to a great degree, see 40 CFR 1508.27.		
	Likely	Some degree of uncertainty associated with the impact		
*Actions that will substantially increase or decrease stock size, but do not change a stock status may have different impacts depending on the particular action and stock. Meaningful differences between alternatives may be illustrated by using another resource attribute aside from the MSA status, but this must be justified within the impact analysis.				

6.1.1 Current Fishing Effort

Current fishing gear density compiled by the Decision Support Tool (DST) team are included below, which served as the basis for the evaluation of time/area closures. The figures include the current gear density from VTRs and VMS reports from a subset of years, 2017 - 2020 for federal gillnet, for both monkfish and dogfish fisheries in aggregate (Figure 33) and also separately (Figure 34 and Figure 35). The gear density figures are broken down by months being considered for time/area closure alternatives. These figures can also be further split out by mesh size categories if interested. It is worth noting that substantive changes in fishing effort in other gear types is not expected nor a shift to other gear types as a result of this action.

Figure 33. Current gillnet gear density for monkfish and dogfish based on VTR and VMS data from 2017-2020, compiled by DST team.

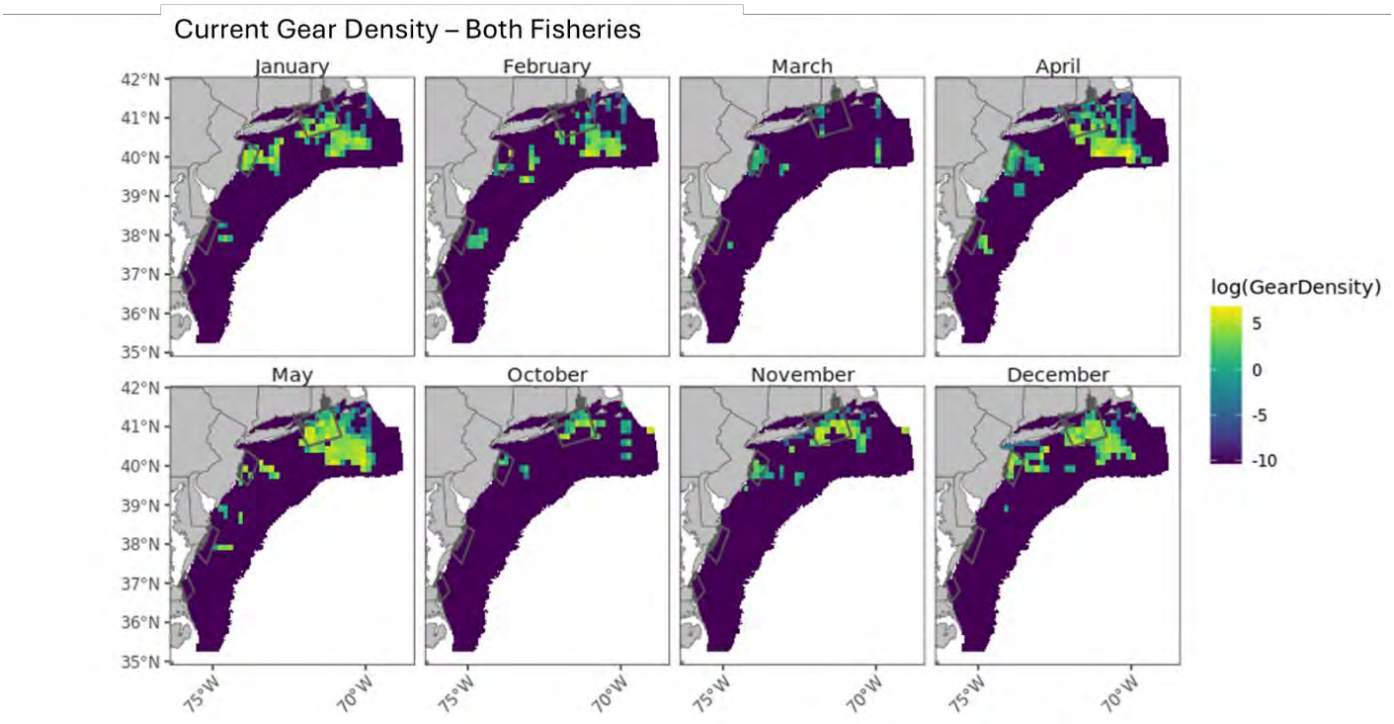
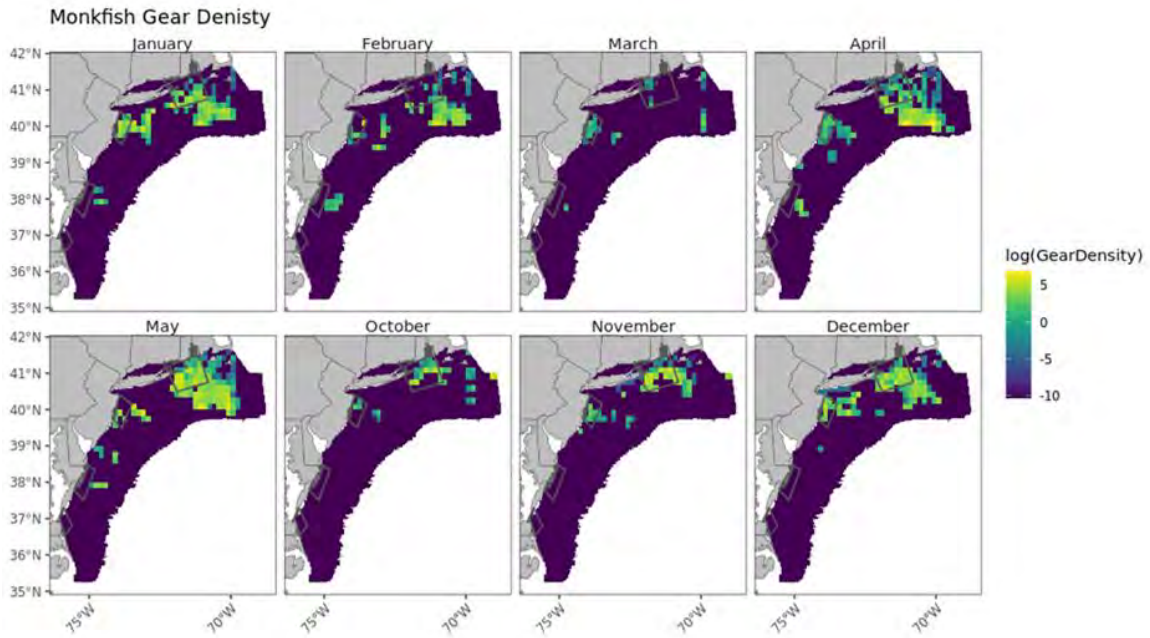
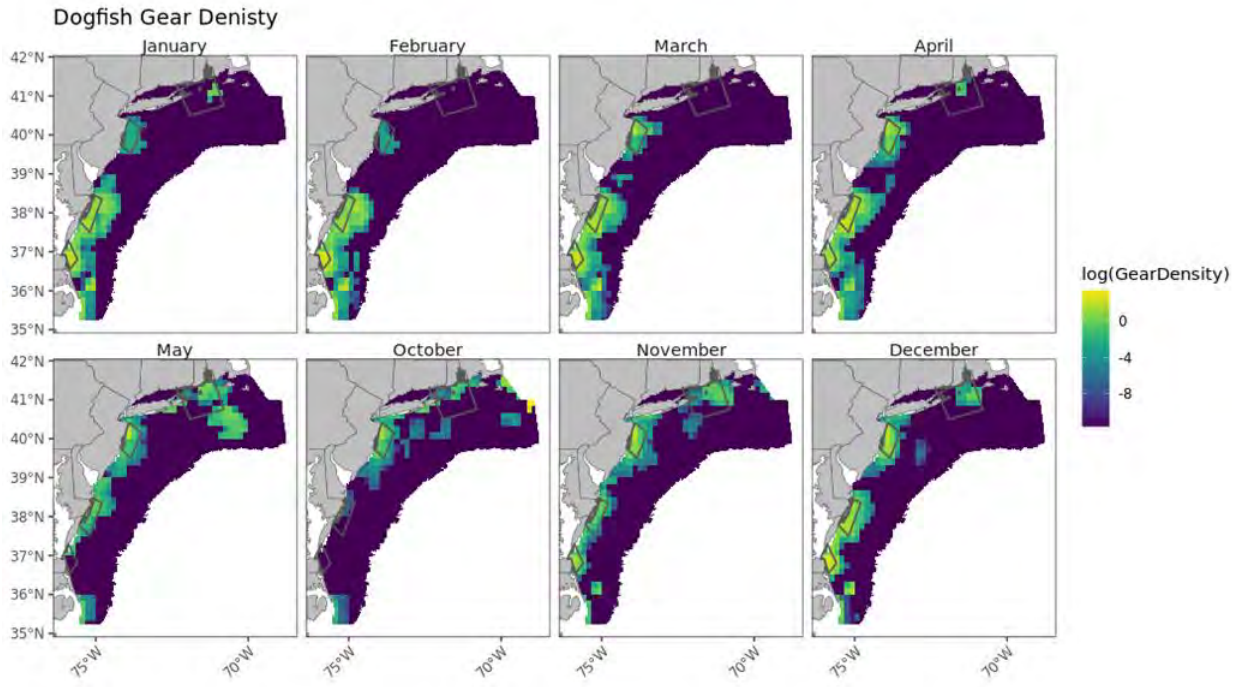


Figure 34. Current gillnet gear density for monkfish based on VTR and VMS data from 2017-2020, compiled by DST team.



Note: Potential months under consideration for monkfish closures in range of alternatives: April, May, December for SNE polygon; May, October (15-31), November, December for New Jersey polygon.

Figure 35. Current gillnet gear density for dogfish (data do not differentiate between spiny and smooth dogfish), based on VTR and VMS data from 2017-2020, compiled by DST team.



Note: Potential months under consideration for dogfish closures in range of alternatives: May, October (15-31), November, December for New Jersey polygon; January, February, March, November, December for DE/MD/VA polygons.

6.1.2 Expected Changes in Fishing Effort Under Each Alternative

The expected impacts of the alternatives on the VECs are derived from consideration of both the current conditions of the VECs and expected changes in fishing effort under each alternative. Fishing effort is influenced by a variety of interacting factors, including regulations (catch and landings limits, possession limits, gear restrictions, seasonal closures, etc.), availability of the species in question and other potential target species, market factors such as price of various potential target species, and other factors. It is important to note that actual fishing effort may differ from these expectations based on changes in availability, market factors, and other conditions which are difficult to predict. The Decision Support Tool was used to evaluate time/area closures and impacts from gear modifications and are summarized below.

Time/area closure evaluation methodology

The Decision Support Tool (DST), used to support development of Atlantic Large Whale Take Reduction Team measures, was adapted for use in the Council's sturgeon bycatch action. Specifically, the fixed-gear fishery layer was utilized to examine how gillnet effort/gear distribution might change in response to the proposed sturgeon bycatch measures. The fixed-gear fishery layer was isolated to the monkfish and dogfish species groups. Note: the monkfish fishery group includes monkfish and skates, and the dogfish fishery group includes spiny and smooth dogfish. Trips are assigned to Species Grouping based on primary species landed (from VTRs). The monkfish and dogfish species groups are further subdivided into mesh size (small [< 5in], medium [5 - 7in], and large [> 7in]) and gillnet type (anchor or drift).

The DST uses VTRs and VMS reports from a subset of years (2017 - 2020 for federal gillnet). Where available and appropriate, gear configuration is additionally informed by fisheries observer reports and interviews with relevant state agencies. Each VTR is used to estimate the amount of gear that is deployed during an individual trip. That gear is distributed over space and assigned to 1 square mile cells throughout the coast based on the coordinates, depth or reporting area used in the trip report. Using the soak time to know how long that gear was deployed, the gear is distributed over the course of a month to get a monthly time-scale.

Using this monthly time-scale of gillnet gear density, the DST then estimates how gillnet effort might change in response to the proposed management measures, including whether gear is removed (i.e., ceases fishing) or is displaced to areas outside the polygons where measures are applied. Gear is only displaced to cells where the fishery is currently active, where there is at least one existing similar trip (same primary landed species, same gear configuration, and similar mesh size). Gear is not distributed to cells where the fishery and subset gear type [mesh size, gillnet type] has not reported effort during the subset years of which VTRs were queried. Gear cannot be displaced to a cell that is affected by another closure for the same fishery. The amount of gear displaced to qualifying cells depends on 1) how far the cell is from where the gear is currently located, and 2) the distribution of fishing effort in that cell (a cell with more fishing effort is estimated to be more favorable to fishing, and more gear is placed here). Gear without an eligible cell for displacement is removed from the fishery. The DST uses a specified cost-benefit parameter for the maximum distance for gear displacement (how far a vessel would travel). Each alternative was tested with two maximum distances for gear displacement: 20 and 50 miles from where the gear is currently placed. If no cell was available within this distance, gear was removed from the fishery.

For each alternative, the DST results describe the proportion of gear that is removed, and the proportion of gear displaced to areas outside the polygons where measures are applied.

The next step would be to combine the results of the gear density/redistribution with the sturgeon risk mapping. However, because the risk of sturgeon take is spatially diffuse, gear redistributes to areas with the same risk of sturgeon take (see Section 6.1.3). Thus, take reduction is seen when gear is removed rather than redistributed.

Time/area closure results

Preliminary results from the DST tool are included in the following tables and figures. Additional preliminary data results, both figures and tables, are included in Appendix A (Section 10). The preliminary results were reviewed by industry members who were previously involved in the application of the DST model for Atlantic Large Whales Take Reduction Team work and/or have knowledge in the monkfish and spiny dogfish fisheries. A summary of those informal meetings with industry is also available in Appendix A.

Table 39. Alternative 2 DST results for a 20-mile maximum gear replacement.

Alternative 2 - 20 miles displacement	Total Gear (# nets) Before Closure	Total Gear (# nets) After Closure	% Coastwide Reduction	Gear Removed	Gear Subject to Closure	% Removed from Closure
January	4,109	4,093	0.39%	16	66	**24%**
February	2,545	2,528	0.67%	17	75	**23%**
March	273	260	4.76%	13	75	**17%**
April	6,138	5,856	4.59%	282	524	**54%**
May	8,370	6,454	22.89%	1,916	2,698	**71%**
June	7,241	7,241	0.00%	0	0	**NA**
July	4,019	4,019	0.00%	0	0	**NA**
August	3,634	3,634	0.00%	0	0	**NA**
September	2,358	2,358	0.00%	0	0	**NA**
October	2,754	2,744	0.36%	10	15	**67%**
November	3,275	3,209	2.02%	66	101	**65%**
December	3,918	2,150	45.13%	1,768	2,113	**84%**
	48,635	44,545	8.41%	4,088	5,666	**72%**

Table 40. Alternative 2 DST results for a 50-mile maximum gear replacement.

Alternative 2 – 50-miles displacement	Total Gear (# nets) Before Closure	Total Gear (# nets) After Closure	% Coastwide Reduction	Gear Removed	Gear Subject to Closure	% Removed from Closure
January	4,109	4,100	0.22%	9	66	**14%**
February	2,545	2,537	0.31%	8	75	**11%**
March	273	266	2.56%	7	75	**9%**
April	6,138	6,113	0.41%	25	524	**5%**
May	8,370	8,215	1.85%	155	2,698	**6%**
June	7,241	7,241	0.00%	0	0	**NA**
July	4,019	4,019	0.00%	0	0	**NA**
August	3,634	3,634	0.00%	0	0	**NA**
September	2,358	2,358	0.00%	0	0	**NA**
October	2,754	2,746	0.29%	8	15	**53%**
November	3,275	3,273	0.06%	2	101	**2%**
December	3,918	3,226	17.66%	692	2,113	**33%**
	48,635	47,728	1.86%	906	5,666	**16%**

Table 41. Alternative 3 DST results for a 20-mile maximum gear replacement.

Alternative 3 – 20-miles displacement	Total Gear (# nets) Before Closure	Total Gear (# nets) After Closure	% Coastwide Reduction	Gear Removed	Gear Subject to Closure	% Removed from Closure
January	4,109	4,093	0.39%	16	66	**24%**
February	2,545	2,528	0.67%	17	75	**23%**
March	273	273	0.00%	0	0	**NA**
April	6,138	6,138	0.00%	0	0	**NA**
May	8,370	6,593	21.23%	1,777	2,528	**70%**
June	7,241	7,241	0.00%	0	0	**NA**
July	4,019	4,019	0.00%	0	0	**NA**
August	3,634	3,634	0.00%	0	0	**NA**
September	2,358	2,358	0.00%	0	0	**NA**
October	2,754	2,754	0.00%	0	0	**NA**
November	3,275	3,265	0.31%	10	55	**18%**
December	3,918	2,150	45.13%	1,768	2,113	**84%**
	48,635	45,046	7.38%	3,588	4,837	**74%**

Table 42. Alternative 3 DST results for a 50-mile maximum gear replacement.

Alternative 3 – 50-miles displacement	Total Gear (# nets) Before Closure	Total Gear (# nets) After Closure	% Coastwide Reduction	Gear Removed	Gear Subject to Closure	% Removed from Closure
January	4,109	4,100	0.22%	9	66	**14%**
February	2,545	2,537	0.31%	8	75	**11%**
March	273	273	0.00%	0	0	**NA**
April	6,138	6,138	0.00%	0	0	**NA**
May	8,370	8,215	1.85%	155	2,528	**6%**
June	7,241	7,241	0.00%	0	0	**NA**
July	4,019	4,019	0.00%	0	0	**NA**
August	3,634	3,634	0.00%	0	0	**NA**
September	2,358	2,358	0.00%	0	0	**NA**
October	2,754	2,754	0.00%	0	0	**NA**
November	3,275	3,275	0.00%	0	55	**0%**
December	3,918	3,226	17.66%	692	2,113	**33%**
	48,635	47,770	1.78%	864	4,837	**18%**

Table 43. Alternative 4 DST results for a 20-mile maximum gear replacement.

Alternative 4 – 20-miles displacement	Total Gear (# nets) Before Closure	Total Gear (# nets) After Closure	% Coastwide Reduction	Gear Removed	Gear Subject to Closure	% Removed from Closure
January	4,109	4,093	0.39%	16	66	**24%**
February	2,545	2,545	0.00%	0	0	**NA**
March	273	273	0.00%	0	0	**NA**
April	6,138	6,138	0.00%	0	0	**NA**
May	8,370	8,370	0.00%	0	0	**NA**
June	7,241	7,241	0.00%	0	0	**NA**
July	4,019	4,019	0.00%	0	0	**NA**
August	3,634	3,634	0.00%	0	0	**NA**
September	2,358	2,358	0.00%	0	0	**NA**
October	2,754	2,754	0.00%	0	0	**NA**
November	3,275	3,215	1.83%	60	80	**75%**
December	3,918	2,548	34.97%	1,370	1,694	**81%**
	48,635	47,188	2.98%	1,446	1,840	**79%**

Table 44. Alternative 4 DST results for a 50-mile maximum gear replacement.

Alternative 4 – 50-miles displacement	Total Gear (# nets) Before Closure	Total Gear (# nets) After Closure	% Coastwide Reduction	Gear Removed	Gear Subject to Closure	% Removed from Closure
January	4,109	4,100	0.22%	9	66	**14%**
February	2,545	2,545	0.00%	0	0	**NA**
March	273	273	0.00%	0	0	**NA**
April	6,138	6,138	0.00%	0	0	**NA**
May	8,370	8,370	0.00%	0	0	**NA**
June	7,241	7,241	0.00%	0	0	**NA**
July	4,019	4,019	0.00%	0	0	**NA**
August	3,634	3,634	0.00%	0	0	**NA**
September	2,358	2,358	0.00%	0	0	**NA**
October	2,754	2,754	0.00%	0	0	**NA**
November	3,275	3,275	0.00%	0	80	**0%**
December	3,918	3,254	16.95%	664	1,694	**39%**
	48,635	47,961	1.39%	673	1,840	**37%**

6.1.3 Potential Reduction in Sturgeon Bycatch

In order to assess the likelihood of sturgeon take occurrence in a given location based on the expected changes in fishing effort described in Section 6.1.1, an analysis was conducted to evaluate changes in sturgeon takes from the time/area closure alternatives. The main result is that a shift in total fishing effort may offset intended bycatch mitigation given there is a similar chance of encountering a sturgeon relative to where previous fishing activity occurred. Overall, there is a very similar percent take reduction to percent gear removed because risk of sturgeon interaction is spatially diffuse and effort shifts and gear redistributes to areas with the same risk of sturgeon encounters. Take reduction is seen when gear is removed. The final report of this work can be found in Appendix B.

As discussed in Section 5.3.5.2, the observed or documented interactions between Atlantic sturgeon and gillnet gear in the GAR has been described in several documents. Over all gears and observer programs that have encountered Atlantic sturgeon, the distribution of haul depths on observed hauls that caught Atlantic sturgeon was significantly different from those that did not encounter Atlantic surgeon, with Atlantic sturgeon encountered primarily at depths under 20 m (ASMFC 2017a). More recent studies support that habitat features such as depth and water temperature influence Atlantic sturgeon distribution in the Mid-Atlantic Bight (Breece et al. 2016; Breece et al. 2018).

Detections of acoustically-tagged sturgeon in an area identified for offshore wind leases located between Long Island and the coast of New Jersey, extending 11.5 to 24 nautical miles southeast of Long Island, with water depths ranging from 23 m to 41 m indicated that the tagged sturgeon were most abundant in the area in the winter months (i.e., December through February) and occurred throughout the area including the waters furthest from shore and up to 41 m deep. The sturgeon were least abundant, including zero detections in some years, during the months of July through September (Ingram et al. 2019). Further south, a broad-scale acoustic array detected 352 In Mid-Atlantic waters off Maryland over a two-year

period (Rothermel et al. 2020). As seen by Ingram et al., Atlantic sturgeon selected for deeper waters in the fall. In addition, as suggested by modeling (Breece et al. 2016; Breece et al., 2018), Atlantic sturgeon presence was associated with warmer water temperatures further offshore in the fall and winter compared to more near-shore waters (Rothermel et al. 2020). However, Rothermel et al. also noted that in their study area Atlantic sturgeon had a wider continental shelf distribution in their fall migration related to depth and water temperature gradients which likely reflects the temperature gradient across the continental shelf in more southern Mid-Atlantic waters in the winter.

The expected sturgeon takes per days fished in the sturgeon take analysis (Figure 3 of the analysis) reflects some of what we would expect based on the available literature. Specifically, the expected take of sturgeon in July through September is less than in other months; a time that coincides with sturgeon presence in coastal estuaries. The expected take of sturgeon is highest and most concentrated in the southern Mid-Atlantic Bight off Virginia in December and across the continental shelf, then declines somewhat through the winter months; findings that are consistent with Rothermel et al. (2020) and modeling by Breece et al. (2016; 2018). It is difficult to discern more detailed distribution of Atlantic sturgeon at the scale of the analysis as well as the scale of the sturgeon bycatch hotspot polygons. In addition, the expected sturgeon takes per day is influenced by where and when fishing effort occurs. However, telemetry detections of Atlantic sturgeon for Ingram et al. (2019) and Rothermel et al. (2020) were limited to the area where telemetry receiver arrays could be placed and the number of tagged sturgeon that passed through the telemetry arrays. Therefore, each method has its limitations for identifying Atlantic sturgeon presence throughout the Mid-Atlantic Bight in all months.

Table 45. Expected percent reduction of Atlantic Sturgeon takes by federally-permitted vessels using gillnet gears under various actions and behavior (max movement distance) scenarios. Action 1 is 'no action' and other alternatives not involving closures are also not listed.

Action	*Max Distance Move (nm)*	*Percent Reduction*
2	20	13.00%
2	50	4.20%
3	20	10.60%
3	50	3.20%
4	20	4.10%
4	50	1.90%

6.2 IMPACTS ON TARGET SPECIES

6.2.1 Alternative 1 – No Action

Under Alternative 1 (No Action), the current federal measures for the monkfish and spiny dogfish gillnet fisheries would remain – new measures to reduce sturgeon bycatch would not be implemented in 2024 through Council action.

The impacts of Alternative 1 on the target species (monkfish and spiny dogfish) would likely be negligible to slight positive. The justification for this conclusion includes: According to the 2022 monkfish stock assessment, the stock status of monkfish is unknown and based on the 2023 management track assessment for spiny dogfish, the species was neither overfished (101% of target) nor experiencing

overfishing in 2022 (81% of target). Maintaining the same fishing areas and gear configurations would be unlikely to lead to substantive changes in fishing effort and/or behavior (e.g., number of trips, amount of discarding, etc.). There would likely be the same number of trips and the proportion of discards to landings on each trip would be unchanged. The No Action effort controls in the northern and southern fishery management areas would help constrain landings and help keep landings within the total allowable landings. Discard set asides, combined with landings limits should avoid ABC overages, which should maintain the health of the monkfish and spiny dogfish populations. The No Action alternative would not create any additional measures to constrain monkfish and spiny dogfish landings through time/area closures and gear restrictions, thus, the stock status of monkfish and spiny dogfish would likely remain the same.

6.2.2 Alternative 2 – High Impact Sturgeon Package (Most Time/Area Closures and Gear Restrictions)

Under Alternative 2, there would be a broad array of time/area closures and gear restrictions for both the federal monkfish and spiny dogfish gillnet fisheries in the Atlantic sturgeon bycatch hotspot areas. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon.

Time/area closures

The impacts of Alternative 2 time/area closures on target species (monkfish and spiny dogfish) would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 3, 4, and 5 (under any alternative ABCs should not be exceeded and current status should be maintained). The justification for this conclusion includes: Preliminary results from the DST analysis and sturgeon risk mapping show there are very similar percent sturgeon take reductions correlated to percent gear removed. More specifically, with a 20-mile cap on distance for gear to be displaced from where the gear was fished, 8.4% of gear (measured in soak days) targeting monkfish and dogfish would be predicted to be eliminated (less would be eliminated if effort could be redirected farther away) (see Table 39). The relevant gear in the DST is gillnet greater than 5-inches landing mostly Monkfish/Skate/Dogfish. With a 50-mile cap on distance for gear to be displaced, 1.9% of coastwide dogfish and monkfish effort is unable to be displaced (see Table 40). With either the 20-mile cap or 50-mile cap, the remaining gear soak days that are not expected to be eliminated are predicted to shift to other areas outside the closures, to where there is at least one existing similar trip (i.e. primary VTR kept catch was monkfish/dogfish in same month by the same gear and similar mesh). The potential reductions in overall monkfish and spiny dogfish fishing effort are not expected to substantially change overall monkfish or spiny dogfish catch, so the status of monkfish and spiny dogfish should not change.

Gear modifications

The impacts of Alternative 2 gear modifications on target species (monkfish and spiny dogfish) would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 3, 4, and 5. The justification for this conclusion includes: In the monkfish fishery, low-profile gillnet gear in the NJ area is expected to result in negligible impacts to monkfish because prior research studies conducted using this experimental gear in this fishery in this area found there was no significant difference between monkfish catch in the control and experimental low-profile gillnet gear. Additional information on these experimental low-profile gillnet gear is included in Alternative 2 rationale. Any potential reductions in overall monkfish or spiny dogfish catch would be unlikely to change their statuses.

6.2.3 Alternative 3 – Intermediate Impact Sturgeon Package

Under Alternative 3, a subset of the time/area closures and gear restrictions under consideration in Alternative 2 for both the federal monkfish and spiny dogfish fisheries would be implemented in the Atlantic sturgeon bycatch hotspot areas. This alternative is the intermediate alternative under consideration in terms of impacts. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon and an overnight soak time prohibition for vessels with federal spiny dogfish permits using gillnet gear in the New Jersey bycatch hotspot area.

Time/area closures

The impacts of Alternative 3 time/area closures on target species (monkfish and spiny dogfish) would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 2, 4, and 5 (under any alternative ABCs should not be exceeded and current status should be maintained). The justification for this conclusion includes: Preliminary results from the DST analysis and sturgeon risk mapping show there are very similar percent sturgeon take reductions correlated to percent gear removed. More specifically, with a 20-mile cap on distance for gear to be displaced from where the gear was fished, 7.4% of gear (measured in soak days) targeting monkfish and dogfish would be predicted to be eliminated (less would be eliminated if effort could be redirected farther away) (see Table 41). The relevant gear in the DST is gillnet greater than 5-inches landing mostly Monkfish/Skate/Dogfish. With a 50-mile cap on distance for gear to be displaced, 1.8% of coastwide dogfish and monkfish effort is unable to be displaced (see Table 42). With either the 20-mile cap or 50-mile cap, the remaining gear soak days that are not expected to be eliminated are predicted to shift to other areas outside the closures, to where there is at least one existing similar trip (i.e. primary VTR kept catch was monkfish/dogfish in same month by the same gear and similar mesh). The potential reductions in overall monkfish and spiny dogfish fishing effort are not expected to substantially change overall monkfish or spiny dogfish catch, so the status of monkfish and spiny dogfish should not change.

Gear modifications

The impacts of Alternative 3 gear modifications on target species (monkfish and spiny dogfish) would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 2, 4, and 5. The justification for this conclusion includes: In the monkfish fishery, low-profile gillnet gear in the NJ area is expected to result in negligible impacts to monkfish because prior research studies conducted using this experimental gear in this fishery in this area found there was no significant difference between monkfish catch in the control and experimental low-profile gillnet gear. Additional information on these experimental low-profile gillnet gear is included in Alternative 2 rationale. It is expected that fishermen would adapt to the proposed overnight soak prohibitions to minimize loss of spiny dogfish catch, possibly by changing the areas they fish. Sub-alternatives 5A and 5B would exempt a subset of the dogfish fishery using 5.25” mesh or less from overnight soak prohibitions. Given the DST results showing small overall effort changes coastwide, any potential reductions in monkfish or spiny dogfish catch would be unlikely to change their statuses.

[*To be completed – additional DST gear modifications summary*]

6.2.4 Alternative 4 – Low Impact Sturgeon Package (Least Time/Area Closures and Gear Restrictions)

Under Alternative 4, only the most targeted time/area closures and gear restrictions under consideration for both the federal monkfish and spiny dogfish fisheries would be implemented in the Atlantic sturgeon bycatch hotspot areas (Figure 5, Figure 6, Figure 7). This alternative has the fewest measures, based on times where observed sturgeon bycatch is the highest. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon and an overnight soak time prohibition for vessels with federal spiny dogfish permits using gillnet gear in the New Jersey bycatch hotspot area.

Time/area closures

The impacts of Alternative 4 time/area closures on target species (monkfish and spiny dogfish) would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 2, 3, and 5 (under any alternative ABCs should not be exceeded and current status should be maintained). The justification for this conclusion includes: Preliminary results from the DST analysis and sturgeon risk mapping show there are very similar percent sturgeon take reductions correlated to percent gear removed. More specifically, with a 20-mile cap on distance for gear to be displaced from where the gear was fished, 3% of gear (measured in soak days) targeting monkfish and dogfish would be predicted to be eliminated (less would be eliminated if effort could be redirected farther away) (see Table 43). The relevant gear in the DST is gillnet greater than 5-inches landing mostly Monkfish/Skate/Dogfish. With a 50-mile cap on distance for gear to be displaced, 1.4% of coastwide dogfish and monkfish effort is unable to be displaced (see Table 44). With either the 20-mile cap or 50-mile cap, the remaining gear soak days that are not expected to be eliminated are predicted to shift to other areas outside the closures, to where there is at least one existing similar trip (i.e. primary VTR kept catch was monkfish/dogfish in same month by the same gear and similar mesh). The potential reductions in overall monkfish and spiny dogfish fishing effort are not expected to substantially change overall monkfish or spiny dogfish catch, so the status of monkfish and spiny dogfish should not change.

Gear modifications

The impacts of Alternative 4 gear modifications on target species (monkfish and spiny dogfish) would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 2, 3, and 5. The justification for this conclusion includes: In the monkfish fishery, low-profile gillnet gear in the NJ area is expected to result in negligible impacts to monkfish because prior research studies conducted using this experimental gear in this fishery in this area found there was no significant difference between monkfish catch in the control and experimental low-profile gillnet gear. Additional information on these experimental low-profile gillnet gear is included in Alternative 2 rationale. It is expected that fishermen would adapt to the proposed overnight soak prohibitions to minimize loss of spiny dogfish catch, possibly by changing the areas they fish. Sub-alternatives 5A and 5B would exempt a subset of the dogfish fishery using 5.25” mesh or less from overnight soak prohibitions. Given the DST results showing small overall effort changes coastwide, any potential reductions in monkfish or spiny dogfish catch would be unlikely to change their statuses.

[*To be completed – additional DST gear modifications summary*]

6.2.5 Alternative 5 – Gear-Only Sturgeon Package

Under Alternative 5, there would be gear restrictions for both the federal monkfish and spiny dogfish fisheries in several Atlantic sturgeon bycatch hotspot areas. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon and an overnight soak time prohibition for vessels with federal spiny dogfish permits using gillnet gear in the New Jersey bycatch hotspot polygon and in the Delaware/Maryland/Virgina bycatch hotspot area.

The impacts of Alternative 5 gear modifications on target species (monkfish and spiny dogfish) would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 2, 3, and 4 (under any alternative ABCs should not be exceeded and current status should be maintained). In the monkfish fishery, low-profile gillnet gear in the NJ area is expected to result in negligible impacts to monkfish because prior research studies conducted using this experimental gear in this fishery in this area found there was no significant difference between monkfish catch in the control and experimental low-profile gillnet gear. The research studies also found no significant difference in dogfish catch, though dogfish landings were modest compared to monkfish and winter skate (the top two species landed). Additional information on these experimental low-profile gillnet gear is included in Alternative 2 rationale. It is expected that fishermen would adapt to the proposed overnight soak prohibitions to minimize loss of spiny dogfish catch, possibly by changing the areas they fish. Sub-alternatives 5A and 5B would exempt a subset of the dogfish fishery using 5.25" mesh or less from overnight soak prohibitions. Given the DST results showing small overall effort changes coastwide, any potential reductions in monkfish or spiny dogfish catch would be unlikely to change their statuses.

6.3 Impacts on Non-target Species

This section considered the impacts on the non-target species identified in Section 5.2., specifically the Northeast skate and Northeast multispecies (groundfish) fisheries.

6.3.1 Alternative 1 – No Action

Under Alternative 1 (No Action), the current federal measures for the monkfish and spiny dogfish gillnet fisheries would remain – new measures to reduce sturgeon bycatch would not be implemented in 2024 through Council action.

The impacts of Alternative 1 on the non-target species would likely be negligible and would be negligible relative to Alternatives 2, 3, 4, and 5. Maintaining the same fishing areas and gear configurations would unlikely change fishing effort and behavior (e.g., number of trips, amount of discarding, etc.). There would likely be the same number of trips and the proportion of discards to landings on each trip would be unchanged. The No Action effort controls in the northern and southern monkfish fishery management areas would help constrain landings and help keep landings of non-target species within their total allowable landings. The same applies for spiny dogfish given its quota controls. The No Action alternative would not create any additional measures to constrain non-target species landings through time/area closures and gear restrictions, thus, would likely not change the stock status of these species. Common non-target species include skate and Northeast multispecies and their catch is controlled by measures in their FMPs. Especially in the northern fishery management area, the monkfish fishery is largely incidental, prosecuted during fishing under other FMPs (Section 5.2). Catch of other species on trips landing monkfish and spiny dogfish are controlled by other days at sea limits, sector rules, trip limits, and other discard limiting measures in other FMPs.

6.3.2 Alternative 2 – High Impact Sturgeon Package (Most Time/Area Closures and Gear Restrictions)

Under Alternative 2, there would be a broad array of time/area closures and gear restrictions for both the federal monkfish and spiny dogfish gillnet fisheries in the Atlantic sturgeon bycatch hotspot areas. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon.

Time/area closures

The impacts of Alternative 2 time/area closures on non-target species (primarily winter skate) in the monkfish and spiny dogfish fisheries would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 3, 4, and 5. Preliminary results from the DST analysis and sturgeon risk mapping show there are very similar percent sturgeon take reductions expected to percent gear removed. More specifically, for a 20-mile maximum distance for gear displaced from where the gear is currently displaced, 8.4% of coastwide dogfish and monkfish is unable to be displaced, meaning 8.4% of gear would be predicted to be removed from the fisheries (see Table 39). For a 50-mile maximum distance for gear displaced, 1.9% of coastwide dogfish and monkfish is unable to be displaced (see Table 40). The gear that is not expected to be removed is expected to shift to other areas where there is existing monkfish and spiny dogfish fishing. A similar level of fishing effort is expected by the gear that is relocated outside the time/area closures. Because risk of sturgeon interaction is spatially diffuse, effort shifts and gear redistributes to areas with the same risk of sturgeon encounters. Take reduction, and thus, any reduction in non-target species catch in the monkfish and spiny dogfish fisheries, is seen where gear is removed. This potential reduction in non-target species catch from monkfish and spiny dogfish gear removal is not expected to be substantial and not expected to lead to any catch overages.

Gear modifications

The impacts of Alternative 2 gear modifications on non-target species caught in the monkfish and spiny dogfish fisheries would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 2, 4, and 5. In the monkfish fishery, low-profile gillnet gear in the NJ area is expected to result in negligible impacts to non-target species because prior research studies conducted using this experimental gear in this fishery in this area found there was no significant difference between winter skate catch (primary non-target species in the monkfish fishery) in the control and experimental low-profile gillnet gear. Additional information on this experimental low-profile gillnet gear is included in Alternative 2 rationale.

6.3.3 Alternative 3 – Intermediate Impact Sturgeon Package

Under Alternative 3, a subset of the time/area closures and gear restrictions under consideration in Alternative 2 for both the federal monkfish and spiny dogfish fisheries would be implemented in the Atlantic sturgeon bycatch hotspot areas. This alternative is the intermediate alternative under consideration in terms of impacts. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon and an overnight soak time prohibition for vessels with federal spiny dogfish permits using gillnet gear in the New Jersey bycatch hotspot area.

Time/area closures

The impacts of Alternative 3 time/area closures on non-target species (primarily winter skate) in the monkfish and spiny dogfish fisheries would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 2, 4, and 5. Preliminary results from the DST analysis and sturgeon risk mapping show there are very similar percent sturgeon take reductions expected to percent gear removed. More specifically, for a 20-mile maximum distance for gear displaced from where the gear is currently displaced, 7.4% of coastwide dogfish and monkfish is unable to be displaced, meaning 7.4% of gear would be predicted to be removed from the fisheries (see Table 41). For a 50-mile maximum distance for gear displaced, 1.8% of coastwide dogfish and monkfish is unable to be displaced (see Table 42). The gear that is not expected to be removed is expected to shift to other areas where there is existing monkfish and spiny dogfish fishing. A similar level of fishing effort is expected by the gear that is relocated outside the time/area closures. Because risk of sturgeon interaction is spatially diffuse, effort shifts and gear redistributes to areas with the same risk of sturgeon encounters. Take reduction, and thus, any reduction in non-target species catch in the monkfish and spiny dogfish fisheries, is seen where gear is removed. This potential reduction in non-target species catch from monkfish and spiny dogfish gear removal is not expected to be substantial and not expected to lead to any catch overages.

Gear modifications

The impacts of Alternative 3 gear modifications on non-target species caught in the monkfish and spiny dogfish fisheries would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 2, 4, and 5. In the monkfish fishery, low-profile gillnet gear in the NJ area is expected to result in negligible impacts to non-target species because prior research studies conducted using this experimental gear in this fishery in this area found there was no significant difference between winter skate catch (primary non-target species in the monkfish fishery) in the control and experimental low-profile gillnet gear. Additional information on this experimental low-profile gillnet gear is included in Alternative 2 rationale. Spiny dogfish soak-time limitations would not be expected to change the status of any non-target species in a more than negligible fashion.

6.3.4 Alternative 4 – Low Impact Sturgeon Package (Least Time/Area Closures and Gear Restrictions)

Under Alternative 4, only the most targeted time/area closures and gear restrictions under consideration for both the federal monkfish and spiny dogfish fisheries would be implemented in the Atlantic sturgeon bycatch hotspot areas (Figure 5, Figure 6, Figure 7). This alternative has the fewest measures, based on times where observed sturgeon bycatch is the highest. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon and an overnight soak time prohibition for vessels with federal spiny dogfish permits using gillnet gear in the New Jersey bycatch hotspot area.

Time/area closures

The impacts of Alternative 4 time/area closures on non-target species (primarily winter skate) in the monkfish and spiny dogfish fisheries would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 2, 4, and 5. Preliminary results from the DST analysis and sturgeon risk mapping show there are very similar percent sturgeon take reductions expected to percent gear removed. More specifically, for a 20-mile maximum distance for gear displaced from where the gear is currently displaced, 3% of coastwide dogfish and monkfish is unable to be displaced, meaning 3% of gear would be predicted to be removed from the fisheries (see Table 43). For a 50-mile maximum distance for gear displaced, 1.4% of coastwide dogfish and monkfish is unable to be displaced (see Table 44). The gear that is not expected to be removed is expected to shift to other areas where there is existing monkfish and

spiny dogfish fishing. A similar level of fishing effort is expected by the gear that is relocated outside the time/area closures. Because risk of sturgeon interaction is spatially diffuse, effort shifts and gear redistributes to areas with the same risk of sturgeon encounters. Take reduction, and thus, any reduction in non-target species catch in the monkfish and spiny dogfish fisheries, is seen where gear is removed. This potential reduction in non-target species catch from monkfish and spiny dogfish gear removal is not expected to be substantial and not expected to lead to any catch overages.

Gear modifications

The impacts of Alternative 4 gear modifications on non-target species caught in the monkfish and spiny dogfish fisheries would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 2, 3, and 5. In the monkfish fishery, low-profile gillnet gear in the NJ area is expected to result in negligible impacts to non-target species because prior research studies conducted using this experimental gear in this fishery in this area found there was no significant difference between winter skate catch (primary non-target species in the monkfish fishery) in the control and experimental low-profile gillnet gear. Additional information on this experimental low-profile gillnet gear is included in Alternative 2 rationale. Spiny dogfish soak-time limitations would not be expected to change the status of any non-target species in a more than negligible fashion.

6.3.5 Alternative 5 – Gear-Only Sturgeon Package

Under Alternative 5, there would be gear restrictions for both the federal monkfish and spiny dogfish fisheries in several Atlantic sturgeon bycatch hotspot areas. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon and an overnight soak time prohibition for vessels with federal spiny dogfish permits using gillnet gear in the New Jersey bycatch hotspot polygon and in the Delaware/Maryland/Virgina bycatch hotspot area.

The impacts of Alternative 5 gear modifications on non-target species caught in the monkfish and spiny dogfish fisheries would likely be negligible to slight positive and would be negligible relative to Alternatives 1, 2, 3, and 4. In the monkfish fishery, low-profile gillnet gear in the NJ area is expected to result in negligible impacts to non-target species because prior research studies conducted using this experimental gear in this fishery in this area found there was no significant difference between winter skate catch (primary non-target species in the monkfish fishery) in the control and experimental low-profile gillnet gear. Additional information on this experimental low-profile gillnet gear is included in Alternative 2 rationale. Spiny dogfish soak-time limitations would not be expected to change the status of any non-target species in a more than negligible fashion.

6.4 Impacts on Protected Resources

The Joint Framework alternatives are evaluated for their impacts on species protected under the Endangered Species Act (ESA) of 1973 and/or the Marine Mammal Protection Act (MMPA) of 1972. The current conditions of protected species are summarized in Table 8 and described in Section 5.3. The species that are more likely to be impacted by this action are described in Section 5.3.4 (e.g., sea turtles, large whales, and the five Atlantic sturgeon DPSs).

All ESA-listed species are in poor condition and any interaction (i.e., take) can negatively impact that species' recovery. As a result, any action that may result in interactions of ESA-listed species, including actions that may reduce interactions, is likely to have some level of negative impact to these species. Actions likely to have positive impacts on ESA-listed species include only those that contain specific measures to ensure no interactions or take (Table 37). None of the Joint Framework alternatives would ensure that interactions with ESA-listed species would not occur. Therefore, for each ESA-listed species

described in Section 5.3.4, we considered the impact of each alternative relative to whether it would be more or less negative than each of the other alternatives.

The stock conditions for marine mammals not listed under the ESA varies by species; however, all need protection. For marine mammal stocks that have their PBR level reached or exceeded, some level of negative impacts would be expected from alternatives that result in the potential for interactions between fisheries and those stocks. For species that are at more sustainable levels (i.e., PBR levels have not been exceeded), alternatives not expected to change fishing behavior or effort relative to current operating conditions in the fishery may have some level of positive impacts by maintaining takes below the PBR level and approaching the zero-mortality rate goal (Table 7). All of the Joint Framework alternatives, with the exception of Alternative 1 (i.e., current operating conditions in the fishery), are expected to change fishing behavior or effort. Some of the alternatives are likely to reduce effort relative to current operating conditions. Therefore, for marine mammals not listed under the ESA, we considered the impact of each alternative as well as the PBR level of the particular marine mammal to inform whether the overall impact of the alternative was likely to be positive or negative.

As described above, the Joint Framework alternatives are specific to federal fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) using gillnet gear with ≥10" mesh size in federal and/or state waters, and to vessels with a federal fishing permit targeting spiny dogfish in federal or state waters using gillnet gear with mesh size of 5 - <10". Therefore, for this impacts analysis, we consider only the impacts to protected species from gillnet gear used in the fisheries. The impacts to protected species from other gear types used in the monkfish fishery and the spiny dogfish fishery were most recently described in the Environmental Assessment for Framework Adjustment 13 to the Monkfish Fishery Management Plan and the Environmental Assessment for the 2023 Spiny Dogfish Specifications and will not change as a result of any of the Joint Framework Alternatives.

Gear quantity, soak time, and area fished influence the extent to which the gillnet gear used to target monkfish and spiny dogfish overlap with the distribution of protected species. Additionally, vessels participating in the monkfish fishery or in the spiny dogfish fishery using gillnet gear must comply, where applicable, with the HPTRP, the BDTRP, and the ALWTRP, and with the sea turtle resuscitation guidelines. Therefore, our consideration of the impacts to protected species from the Joint Framework alternatives also takes into account the take reduction plan measures that reduce the times when and areas where some protected species overlap with the gillnet gear used in the monkfish and spiny dogfish fisheries.

We qualitatively assessed the impacts of each Joint Framework alternative by considering the available information for the marine distribution of each protected species, the areas where the management measures would be implemented, and considering the preliminary DST results for how gillnet effort might change in response to each of the Joint Framework alternatives (section 6.1.2). For the Atlantic sturgeon DPSs, we also sought to quantify the change in sturgeon takes (i.e., percentage of sturgeon bycatch reduction) that would occur (section 6.1.3). Based on the methods used for the analysis, Atlantic sturgeon are more diffuse in their marine range than expected as related to risk of bycatch in gillnet gear given the literature on sturgeon habitat, but the model is the same peer-reviewed model used to estimate sturgeon bycatch. As a result, a reduction in Atlantic sturgeon bycatch is seen primarily when gear is removed as a result of the closure alternatives because effort shifts would result in gear redistributing to areas with similar risk of sturgeon encounters. The diffuse risk pattern is likely driven by the relatively low observer coverage and low total observed takes, which create relatively high uncertainty when the takes that do occur and relative effort are evaluated by the risk model. However, we considered the impact of the Joint Framework alternatives for the Atlantic sturgeon DPSs quantitatively, using the percentage of sturgeon bycatch reduction, and qualitatively based on the available literature that describes Atlantic sturgeon as having seasonal patterns of movement and distribution in marine waters. Finally, although each Atlantic sturgeon DPS is its own listed entity under the ESA, we consider the impacts of each alternative to

Atlantic sturgeon, in general, because individuals of all five DPSs occur in the Mid-Atlantic and our bycatch modeling is not specific to each DPS.

Effort from the SNE closure polygon is expected to shift east of the closure polygon, directly overlapping with areas of high density North Atlantic right whale habitat. The impact of such effort shifts under Alternatives 2, 3, and 4 for North Atlantic right whales is considered below.

Figure 36. North Atlantic right whale habitat relative to Southern New England bycatch polygon (closest to shore) and the South Island Restricted Area (further offshore).

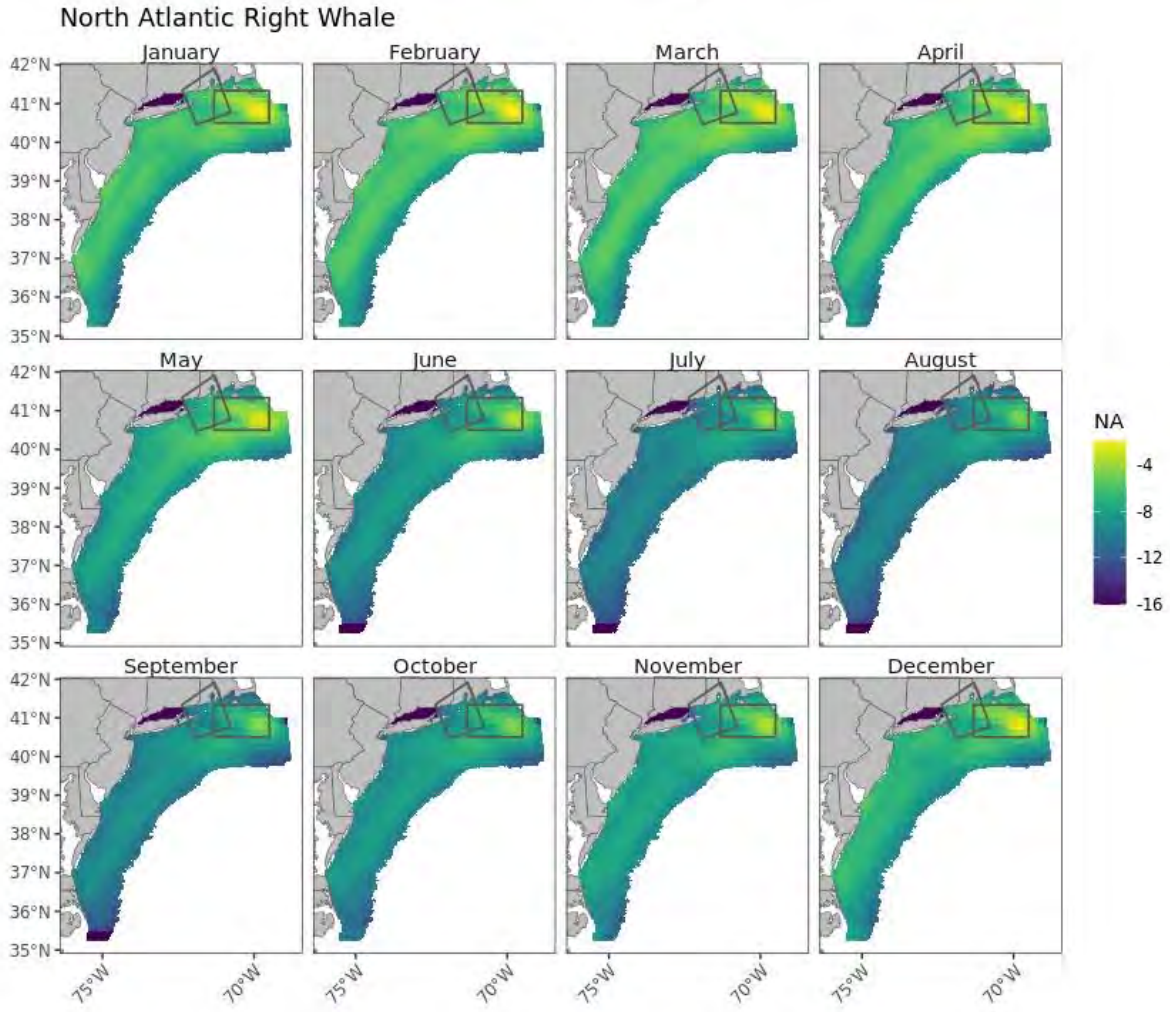
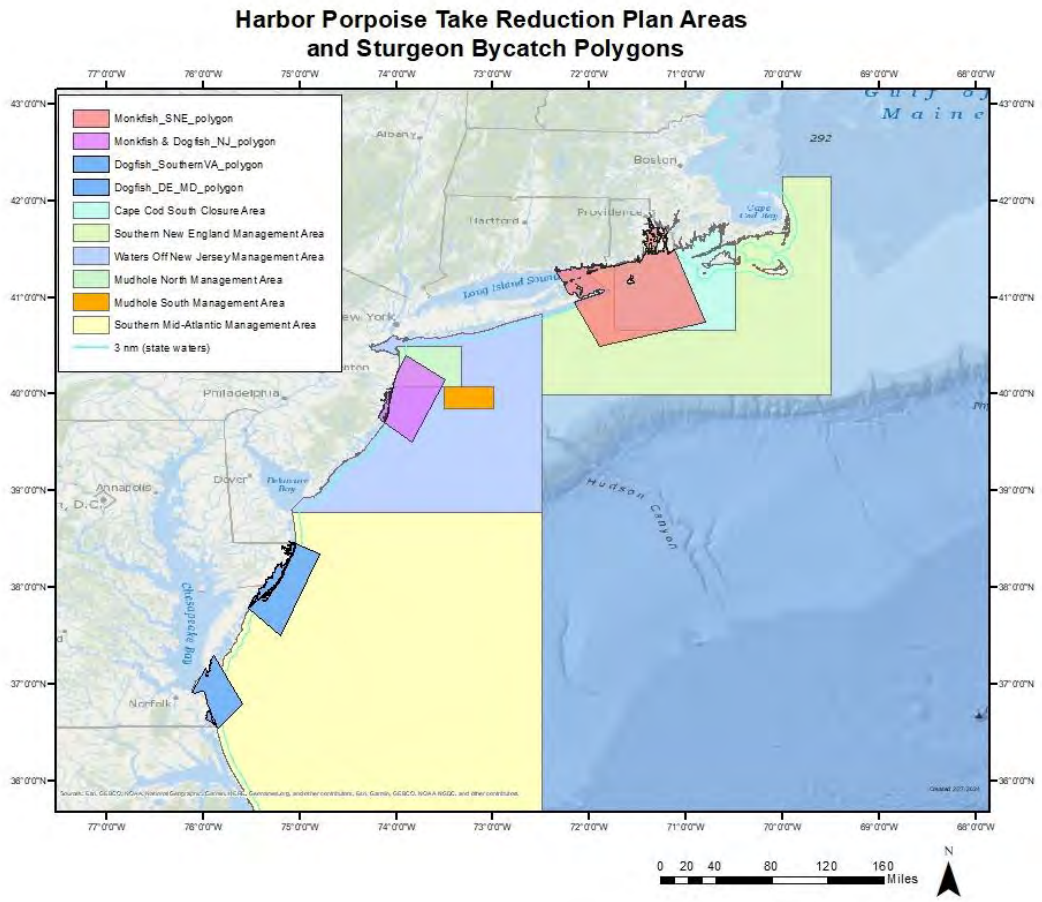


Figure 37. Harbor Porpoise Take Reduction Plan Areas overlapping and adjacent to the proposed sturgeon bycatch polygons.



The SNE sturgeon bycatch hotspot polygon overlaps with the HPTRP's Southern New England Management Area (pingers required on gillnets December 1 – May 31) and overlaps in part with the Cape Cod South Closure Area (closed to gillnets in March). The NJ sturgeon bycatch hotspot polygon overlaps with the HPTRP's Waters off New Jersey Management Area, overlaps in part with the Mudhole North Management Area, and borders the Mudhole South Management Area (Figure 37). The DE/MA/VA sturgeon bycatch hotspot polygons overlap with the HPTRP's Southern Mid-Atlantic Management Areas. The requirements for these areas include closures and gear modifications for large mesh (defined under the HPTRP as 7–18-inch mesh) and small mesh gillnet gear (defined under the HPTRP as >5-<7-inch mesh) (Table 46). We consider the HPTRP measures in the impacts section below with respect to how they add to or otherwise change the expected impacts of this action to Atlantic sturgeon and harbor porpoise.

Table 46. Harbor Porpoise Take Reduction Plan measures in relevant Management Areas.

Waters off New Jersey Management Area		
Large Mesh Gillnet Gear (7-18 inches)	Apr 1-20	Closed (No Large Mesh Gillnets)
Large Mesh Gillnet Gear (7-18 inches)	Jan. 1-Mar. 31, Apr 21-30	Gear Modification Requirements
Small Mesh Gillnet Gear (>5 inches - <7 inches)	Jan. 1-Apr 30	Gear Modification Requirements
Mudhole North Management Area		
Large Mesh Gillnet Gear (7-18 inches)	Feb 15-Mar 15, Apr 1-20	Closed (No Large Mesh Gillnets)
Large Mesh Gillnet Gear (7-18 inches)	Jan. 1-Feb 14, Mar 16-31, Apr 21-30	Gear Modification Requirements
Small Mesh Gillnet Gear (>5 inches - <7 inches)	Feb 15-Mar 15	Closed (No Small Mesh Gillnets)
Small Mesh Gillnet Gear (>5 inches - <7 inches)	Jan 1-Feb 14, Mar 16-Apr 30	Gear Modification Requirements
Mudhole South Management Area		
Large Mesh Gillnet Gear (7-18 inches)	Feb 1-Mar 15, April 1-20	Closed (No Large Mesh Gillnets)
Large Mesh Gillnet Gear (7-18 inches)	Jan 1-31, Mar 16-31, April 21-30	Gear Modification Requirements
Small Mesh Gillnet Gear (>5 inches - <7 inches)	Feb 1-Mar 15	Closed (No Small Mesh Gillnets)
Small Mesh Gillnet Gear (>5 inches - <7 inches)	Jan 1-31, Mar 16-Apr 30	Gear Modification Requirements
Southern Mid-Atlantic Management Area		
Large Mesh Gillnet Gear (7-18 inches)	Feb 15-Mar 15	Closed (No Large Mesh Gillnets)
Large Mesh Gillnet Gear (7-18 inches)	Feb 1-14, Mar 16-Apr 30	Gear Modification Requirements
Small Mesh Gillnet Gear (>5 inches - <7 inches)	Feb 1- April 30	Gear Modification Requirements

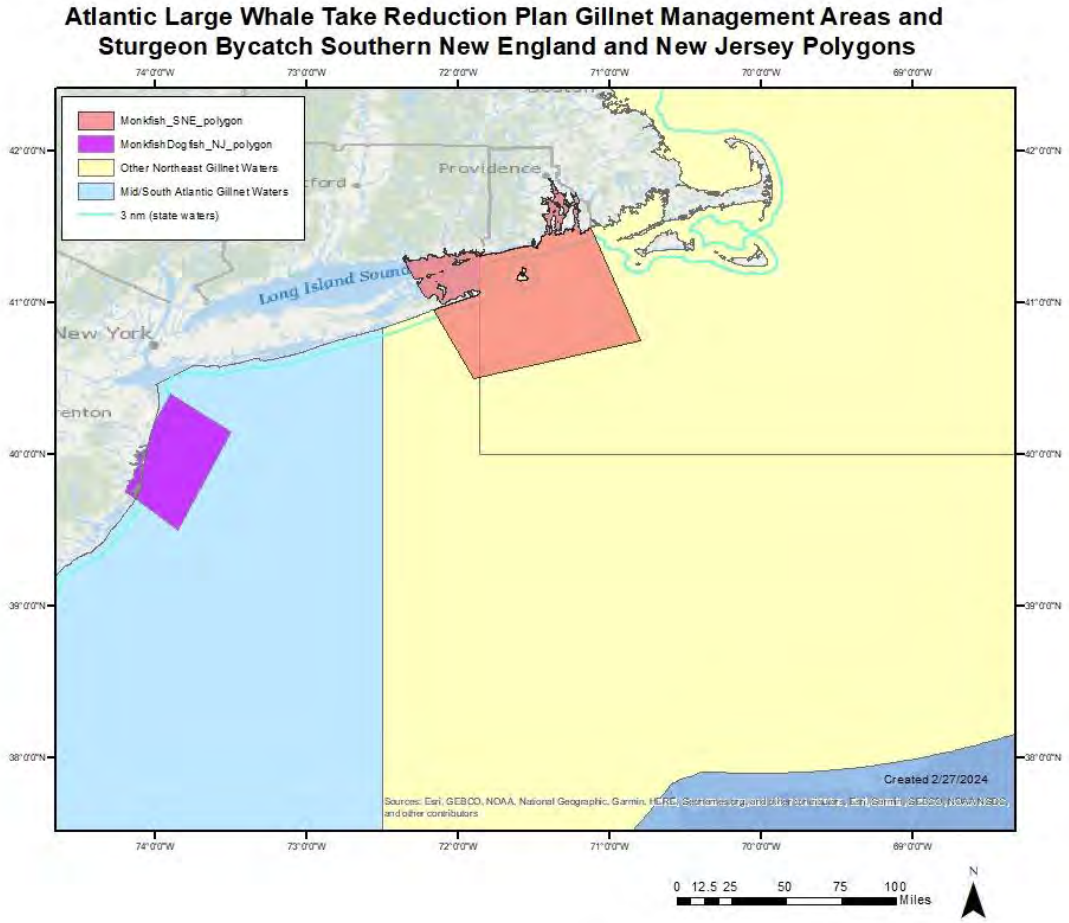
Large Mesh Gillnet Requirements

Management Area	**Floatline**	**Twine Size**	**Tie-downs**	**Net Size**	**Nets per vessel**	**Nets per String**
Waters off NJ	4800 ft max	Min .90mm	Required No more than 24 ft apart in floatline No more than 48 inches from floatline to lead line	300 ft max	80 max	16 panels max
Mudhole North	3900 ft max					13 panels max
Mudhole South						
S Mid Atlantic						

Small Mesh Gillnet Requirements

Management Area	**Floatline**	**Twine Size**	**Tie-downs**	**Net Size**	**Nets per vessel**	**Nets per String**
Waters off NJ	3000 ft max	Min .81mm	Prohibited	300 ft max	45 max	10 panels max
Mudhole N						
Mudhole S						
S Mid Atlantic	2811 ft max					7 panels max

Figure 38. Atlantic Large Whale Take Reduction Plan Gillnet Management Areas overlapping the proposed Southern New England and New Jersey sturgeon bycatch polygons.



Most of the SNE sturgeon bycatch hotspot polygon overlaps with the ALWTRP's Northeast Gillnet waters, and the NJ and DE/MD/VA sturgeon bycatch hotspot polygons overlap with the ALWTRP's Mid/South Atlantic Gillnet waters (Figure 38). The ALWTRP requirements for these areas include gear marking, use of weak links designed for the breaking strength of large whales, use of sinking groundlines, and no wet storage of gear (i.e., gear must be hauled once every 30 days). None of these measures will reduce the likelihood of sturgeon interactions with gillnet gear used in the monkfish and spiny dogfish fisheries given the differences in body size and, therefore, strength of Atlantic sturgeon compared to large whales. However, we consider the ALWTRP measures in the impacts section below with respect to whether they would change the expected impacts of this action to large whales.

6.4.1 Alternative 1 – No Action

Under Alternative 1 (No Action), the current federal measures for the monkfish fishery and for the spiny dogfish fishery would remain – new measures to reduce sturgeon bycatch would not be implemented in 2024 through Council action. Atlantic sturgeon bycatch is expected to continue to occur at or about the present levels. This level of bycatch will have negative impacts on the New York Bight, Chesapeake Bay,

Carolina, and South Atlantic DPSs of Atlantic sturgeon given the prevalence of individuals from these populations in the Mid-Atlantic Bight, and a slight negative impact on the Gulf of Maine DPS given its more limited presence in the Mid-Atlantic Bight.

Of the five alternatives considered in this Framework action, Alternative 1 is more negative for Atlantic sturgeon and sea turtles compared to Alternatives 2, 3, 4, and 5. Alternative 1 has the same level of negative impacts as Alternative 5 for all large whales and is more negative for large whales compared to Alternatives 2, 3, and 4 with the possible exception of North Atlantic right whales. Alternative 1 is likely slightly more negative for MMPA species compared to Alternatives 2 and 3, and likely has the same level of impacts for MMPA-protected species as Alternatives 4 and 5.

6.4.2 Alternative 2 – High Impact Sturgeon Package (Most Time/Area Closures and Gear Restrictions)

If vessels are willing to travel a maximum of 20 or 50 miles from their original fishing location in the time/area closures described above, modeling (the Decision Support Tool) developed for large whale take reduction suggests that 72% or 16% of the relevant effort in this alternative's closure areas/times would be eliminated (the remainder re-locates), which equates to 8% or 2% of total relevant effort. Relevant effort here is defined as gillnet sets' total soak days from trips landing mostly Monkfish/Skate/Spiny Dogfish/Smooth Dogfish with gillnet mesh larger than 5 inches. The shorter the maximum distance that vessels are able/willing to relocate (only 20 miles versus 50 miles), the more likely effort is eliminated versus re-locating to other areas.

Alternative 2 would reduce gillnet effort in each of the sturgeon bycatch hotspot polygons. Some gillnet effort would also shift from where it currently occurs within the polygons. In general, for the NJ and DE/MD/VA sturgeon bycatch hotspot polygons, the DST predicts gillnet effort will shift to the areas immediately adjacent to the polygons (all boundaries other than the landward boundary) with a more extensive shift predicted when considering gear displacement up to 50 miles from where it currently occurs compared to gear displacement of up to 20 miles from where it currently occurs. For the SNE sturgeon bycatch hotspot polygon, effort would shift to the areas adjacent to the southern and eastern boundaries of the polygon for the April 1-May 31 period under both the 20-mile and 50-mile gear redistribution scenarios. Gear redistribution for the December 1-December 31 time period was predicted to be more limited with gear redistributing to the area adjacent to the southeastern corner of the polygon when considering a gear displacement of up to 20 miles, and gear redistributing to both the area adjacent to the southeastern corner of the polygon and the area adjacent to the southwestern corner of the polygon when considering a gear displacement of up to 50 miles.

The results of the sturgeon bycatch reduction analysis indicate that Alternative 2 would reduce sturgeon bycatch by 13.3% or 4.2% coastwide based on gillnet gear shifting up to 20 miles or 50 miles, respectively, from where it is currently fished within each of the sturgeon bycatch hotspot polygons. The percent reductions could be greater if, as suggested by the literature, Atlantic sturgeon are less numerous in Mid-Atlantic waters beyond the 20m depth contour. A reduction of sturgeon bycatch should also result in a reduction in sturgeon bycatch mortality given that fewer fish would interact with gillnet gear and, therefore, be at risk of dying in the gear. However, this could be offset if shifts in effort result in longer soak times. If that were to occur, then bycatch mortality would remain the same or increase, overall, given the increased likelihood of sturgeon mortality with increasing soak time. The requirement to use low profile gillnet gear in the NJ sturgeon bycatch hotspot polygon beginning January 1, 2026, at times when the closure is not in effect is expected to reduce the number of sturgeon that are incidentally caught while retaining enough of the targeted catch. Reducing the capture of Atlantic sturgeon will also reduce sturgeon bycatch mortality resulting from capture in gillnet gear, particularly when soak time for the gear exceeds 16 hours.

Each of the sturgeon bycatch hotspot polygons overlap in total or in part with management areas defined under the HPTRP that are also closed to large mesh (7-18-inch) and/or small mesh (>5-<7-inch) gillnet gear at certain times of the year. The closure time periods of this action do not overlap with the HPTRP closures. Therefore, for part of the SNE polygon, gillnet gear fished for the monkfish fishery would be prohibited from March 1-March 31 under the HPTRP, and from April 1-May 31 and December 1-December 31 under this alternative. Similarly, for the NJ sturgeon bycatch polygon, gillnet gear fished in the monkfish fishery would be prohibited from that part of the polygon that overlaps with the HPTRP Northern Mudhole Management Area from February 1-March 15 and April 1-April 20 under the HPTRP and from May 1-May 31 and October 15-December 31 under this alternative. Gillnet gear fished in the spiny dogfish fishery would be prohibited from that part of the NJ polygon that overlaps with the Northern Mudhole Management Area from January 1-February 14 under the HPTRP requirements, and from May 1-May 31 and October 15-December 31 under this alternative. The effects of the HPTRP requirements are already reflected in the current operation of the fishery. It is possible that the addition of the closures under this alternative to the HPTRP measures already in place could further change fishing behavior (e.g., choosing not to fish in a sturgeon bycatch hotspot polygon even when gillnet gear is not prohibited) that would change the impacts of this action for Atlantic sturgeon. However, we do not have information to inform whether fishing behavior might change.

The distribution of the ESA-listed sea turtles overlaps with the sturgeon bycatch hotspot polygons from at least May through October and possibly from April through November depending on water temperature and sea turtle migrations to the Mid-Atlantic from Virginia and north. Therefore, the SNE closure for December 1-December 31, the NJ closure for October 15-December 31 and the closure of the DE/MD/VA closure areas from November-March 31 will have little to no effects to ESA-listed sea turtles. A reduction in gillnet gear in the closure areas in May would reduce the negative impacts of the monkfish and spiny dogfish fisheries as they currently operate by reducing the amount of gillnet gear in the water. The use of low-profile gillnet gear in the NJ sturgeon bycatch hotspot polygon at times of the year when sea turtles are likely to be present is unlikely to negatively affect sea turtles because lowering the profile of the gear should help to reduce sea turtle interactions. However, the extent to which low-profile gillnet gear will benefit sea turtles is unknown.

The distribution of large whales overlap with the sturgeon bycatch hotspot polygons at all times of the year. In general, any reduction in gillnet effort benefits large whales given their risk of entanglement in this gear type. Therefore, Alternative 2 may benefit large whales by reducing the risk of entanglement in gillnet gear due to the relatively small coastwide reduction in gillnet gear. However, most of the SNE sturgeon bycatch hotspot polygon overlaps with the area where the ALWTRP requirements for Northeast Gillnet waters apply year-round, and the NJ and the DE/MD/VA polygons overlap with the area where the ALWRP requirements for Mid/South Atlantic Gillnet waters apply from September 31-May 1. It is likely that Alternative 2 is only slightly less negative than Alternative 1 because the gillnet gear removed as a result of Alternative 2 should already have been following the ALWTRP requirements. The shifts in gillnet gear predicted by the DST are unlikely to change the risk of interaction with large whales with one exception. Shifts in effort to the area adjacent to the southeastern boundary of the SNE polygon would potentially shift spring and winter gillnet effort into the southern New England habitat of North Atlantic right whales that was recently described by O'Brien et al. (2022) (Figure 36). Given the species dire status, shifting gillnet effort into areas where North Atlantic right whales aggregate would potentially increase the negative impacts to this species despite the ALWTRP requirements currently in place to reduce the likelihood of a right whale entanglement or the severity of an entanglement in gillnet gear.

The distribution of the MMPA species listed in Table 7 overlap with the sturgeon bycatch hotspot polygons. The extent of overlap varies depending on the species and its temporal presence in Southern New England and the Mid-Atlantic. For example, harbor seals, grey seals, harp seals, and hooded seals range widely but primarily occur within New England waters. PBR levels have not been exceeded for any of these pinniped stocks. Therefore, the reduction in gillnet effort resulting from Alternative 2 would, at

best, have a slight positive impact for these pinnipeds. Alternative 2 would not add to the negative impacts already experienced by pinnipeds because of the monkfish fishery and the spiny dogfish fishery. Similarly, for small cetaceans for which PBR levels have not been exceeded, Alternative 2 would not add to the negative impacts and may, depending on the overlap in distribution with the sturgeon bycatch hotspot polygons, have a slightly positive impact compared to the current operating conditions. Similarly, Alternative 2 would not add to the negative impacts for the offshore, Northern, and Southern Migratory coastal stocks of Common bottlenose dolphins and may provide some benefit from the reduction in gillnet effort. However, we anticipate that any benefit would be limited given the relatively small coastwide reduction in gillnet gear, and the existing BDTRP requirements for gillnet gear.

Alternative 2 will be negative for all ESA-listed species. However, Alternative 2 is less negative for Atlantic sturgeon, sea turtles, and large whales except Northern right whales, compared to Alternatives 1, 4, and 5. The impact of Alternative 2 for large whales, including Northern right whales, is expected to be the same as Alternative 3. Alternative 2 is likely to be slightly less negative for MMPA species that have exceeded PBR and slightly more positive for MMPA species that have not exceeded PBR compared to Alternatives 1, 3, 4, and 5. The closures of the NJ polygon and the DE/MA/VA polygons to gillnet gear fished in the spiny dogfish fishery would eliminate the likelihood of Atlantic sturgeon bycatch mortality in these areas for their respective time periods. However, the prohibitions on overnight soaks under Alternatives 3, 4, and 5 would likewise eliminate the likelihood of sturgeon bycatch mortality even though interactions would still occur. Therefore, when looking at the spiny dogfish fishery and the combined effect of closures and the prohibition on overnight soaks, Alternative 2 would afford an additional 10 weeks of sturgeon bycatch mortality reduction compared to Alternative 3, an additional 14 weeks compared to Alternative 4, and an additional 6 weeks of sturgeon mortality reduction compared to Alternative 5.

6.4.3 Alternative 3 – Intermediate Impact Sturgeon Package

If vessels are willing to travel a maximum of 20 or 50 miles from their original fishing location in the time/area closures described above, modeling (the Decision Support Tool) developed for large whale take reduction suggests that 74% or 18% of the relevant effort in this alternative's closure areas/times would be eliminated (the remainder re-locates), which equates to 7% or 2% of total relevant effort. Relevant effort here is defined as gillnet sets' total soak days from trips landing mostly Monkfish/Skate/Spiny Dogfish/Smooth Dogfish with gillnet mesh larger than 5 inches. The shorter the maximum distance that vessels are able/willing to relocate (only 20 miles versus 50 miles), the more likely effort is eliminated versus re-locating to other areas.

Under Alternative 3, there would be fewer closures of the same areas considered in Alternative 2 but these would be closed during the months with the highest observed sturgeon bycatch (i.e., May and December for the Southern New England Atlantic sturgeon bycatch hotspot polygon, and December for the New Jersey bycatch hotspot polygon). Alternative 3 would also require the use of low-profile gillnet gear in the monkfish fishery when fishing in the New Jersey bycatch hotspot polygon January through November beginning January 1, 2026. Vessels with a federal fishing permit targeting spiny dogfish would be prohibited from soaking gear overnight from 8pm until 5am in the New Jersey bycatch hotspot polygon during May 1- May 31.

The results of the sturgeon bycatch reduction analysis indicate that Alternative 3 would reduce sturgeon bycatch by 10.6% or 3.2% coastwide based on gillnet gear shifting up to 20 miles or 50 miles, respectively, from where it is currently fished within each of the sturgeon bycatch hotspot polygons. The percent reductions could be greater if, as suggested by the literature, Atlantic sturgeon are less numerous in Mid-Atlantic waters beyond the 20m depth contour. A reduction of sturgeon bycatch should also reduce sturgeon bycatch mortality, given that fewer fish would interact with gillnet gear and be at risk of dying in the gear. However, this could be offset if shifts in effort result in longer soak times. If that were to occur,

then bycatch mortality would remain the same or increase, overall, given the increased likelihood of sturgeon mortality with increasing soak time. The requirement to use low profile gillnet gear in the NJ sturgeon bycatch hotspot polygon beginning January 1, 2026, for all months except December is expected to reduce the number of sturgeon that are incidentally caught while retaining enough of the targeted catch. The overnight soak prohibition from May 1- May 31 for vessels with a federal fishing permit targeting spiny dogfish in the NJ bycatch hotspot polygon is likewise expected to reduce the amount of sturgeon bycatch although the extent of bycatch reduction is uncertain. More importantly, the overnight soak prohibition would effectively eliminate the likelihood of sturgeon mortality in the gear in all but exceptional circumstances. The majority of observed Atlantic sturgeon that are captured in gillnet gear targeting spiny dogfish are alive when the gear is hauled (Figure 39, Table 47). Nevertheless, any mortality negatively impacts endangered Atlantic sturgeon. To inform this impacts analysis we, therefore, focused on the number of sturgeon found alive in gear that was soaked for < 24 hours. Data collected for gear that was soaked for more than 24 hours is less informative because there is no way of knowing when the sturgeon was captured in the gear. Based on preliminary analysis of observer data (2015-2022 with dogfish as target 1 and target 2 species), no Atlantic sturgeon have died when captured in gillnet gear targeting spiny dogfish that was soaked for less than 16 hours. Therefore, the overnight soak prohibition would reduce mortality of Atlantic sturgeon compared to current operation of the fishery.

Each of the sturgeon bycatch hotspot polygons overlap in total or in part with management areas defined under the HPTRP that are also closed to large mesh (7-18-inch) and/or small mesh (>5-<7-inch) gillnet gear at certain times of the year. The closure time periods of this action do not overlap with the HPTRP closures. Therefore, for part of the SNE polygon, gillnet gear fished for the monkfish fishery would be prohibited from March 1-March 31 under the HPTRP, and from May 1-May 31 and December 1-December 31 under this alternative. Similarly, for the NJ sturgeon bycatch polygon, gillnet gear fished in the monkfish fishery would be prohibited from that part of the polygon that overlaps with the HPTRP Northern Mudhole Management Area from February 1-March 15 and April 1-April 20 under the HPTRP and from May 1-May 31 and December 1-December 31 under this alternative. Gillnet gear fished in the spiny dogfish fishery would be prohibited from that part of the NJ polygon that overlaps with the Northern Mudhole Management Area from January 1- February 14 under the HPTRP requirements, and from November 1-December 31 under this alternative. The effects of the HPTRP requirements are already reflected in the current operation of the fishery. It is possible that the addition of the closures under this alternative to the HPTRP measures already in place could further change fishing behavior (e.g., choosing not to fish in a sturgeon bycatch hotspot polygon even when gillnet gear is not prohibited) that would change the impacts of this action for Atlantic sturgeon. However, we do not have information to inform whether fishing behavior might change.

Except the May 1-May 31 closure for the SNE sturgeon bycatch hotspot polygon, none of the Alternative 3 closures would occur when sea turtles are present in the Mid-Atlantic. The use of low-profile gillnet gear in the NJ sturgeon bycatch hotspot polygon at times of the year when sea turtles are likely to be present is unlikely to negatively impact sea turtles because lowering the profile of the gear should help to reduce sea turtle interactions. However, the extent to which low-profile gillnet gear will benefit sea turtles is unknown. The prohibition on overnight soaks in the spiny dogfish fishery in the NJ polygon from May 1-May 31 would occur when sea turtles were present in these waters and would benefit sea turtles by reducing the likelihood of interactions with gillnet gear and the likelihood of mortality for sea turtles caught in the gear.

Alternative 3 is likely to have similar impacts for large whales as Alternative 2 because the distribution of large whales overlap with the sturgeon bycatch hotspot polygons at all times of the year. The reduction in gillnet effort is unlikely to be significant for reducing the risk of large whale entanglements in gillnet gear given the relatively small coastwide reduction in gillnet gear and given the existing ALWTRP requirements for gillnet gear. The shifts in gillnet gear predicted by the DST are unlikely to change the risk of interaction with large whales with one exception. Shifts in effort to the area adjacent to the

southeastern boundary of the SNE polygon would potentially shift spring and winter gillnet effort into the southern New England habitat of North Atlantic right whales that was recently described by O'Brien et al. (2022) (Figure 36). Given the species dire status, shifting gillnet effort into areas where North Atlantic right whales aggregate would potentially increase the negative impacts to this species despite the ALWTRP requirements currently in place for gillnet gear.

The distribution of the MMPA species listed in Table 7 overlap with the sturgeon bycatch hotspot polygons. The extent of overlap varies depending on the species and its temporal presence in Southern New England and the Mid-Atlantic. For example, harbor seals, grey seals, harp seals, and hooded seals range widely but primarily occur within New England waters. PBR levels have not been exceeded for any of these pinniped stocks. Therefore, the reduction in gillnet effort resulting from Alternative 2 would, at best, have a slight positive impact for these pinnipeds. Alternative 2 would not add to the negative impacts already experienced by pinnipeds because of the monkfish fishery and the spiny dogfish fishery. Similarly, for small cetaceans for which PBR levels have not been exceeded, Alternative 2 would not add to the negative impacts and may, depending on the overlap in distribution with the sturgeon bycatch hotspot polygons, have a slightly positive impact compared to the current operating conditions. Similarly, Alternative 2 would not add to the negative impacts for the offshore, Northern, and Southern Migratory coastal stocks of Common bottlenose dolphins and may provide some benefit from the reduction in gillnet effort. However, we anticipate that any benefit would be limited given the relatively small coastwide reduction in gillnet gear, and the existing BDTRP requirements for gillnet gear.

Alternative 3 will be negative for all ESA-listed species. However, for Atlantic sturgeon, Alternative 3 is less negative compared to alternatives 1 and 5, and slightly less negative than Alternative 4. In addition, Alternative 3 is slightly more negative or equally negative compared to Alternative 2 given the relatively small difference in the percentage of sturgeon bycatch reduction suggested by the preliminary analysis, the uncertainty for the extent of effort shifts and the distribution of Atlantic sturgeon, and the positive benefit of reducing sturgeon bycatch and bycatch mortality in the monkfish and spiny dogfish fisheries within the NJ polygon year-round. In particular, Alternative 3 would effectively eliminate sturgeon bycatch mortality in the NJ sturgeon bycatch hotspot polygon for the spiny dogfish fishery in the month of May because of the prohibition on overnight soaks, and from November 1-December 31 because of the closure. Therefore, when looking at the spiny dogfish fishery and the combined effect of closures and the prohibition on overnight soaks, Alternative 3 would afford an additional 4 weeks of sturgeon bycatch mortality reduction compared to Alternative 4 but fewer weeks of protection compared to Alternative 2 and to Alternative 5.

For the spiny dogfish component of the alternative, Alternative 3 will have a similar impact for reducing Atlantic sturgeon bycatch mortality in the New Jersey polygon as Alternative 2 and Alternative 4. Alternative 3 is likely to be less negative than Alternatives 1, 4, and 5 for sea turtles but more negative than Alternative 2. For large whales, the impact of Alternative 3 is very similar to the impacts of Alternative 2, including potential negative impacts to North Atlantic right whales because of shifting more gillnet effort into their Southern New England habitat. With the exception of Northern right whales, Alternative 3 is less negative for large whales compared to alternatives 1, 4, and 5. Alternative 3 is likely to be slightly less negative for MMPA species that have exceeded PBR and slightly more positive for MMPA species that have not exceeded PBR compared to Alternatives 1, 4, and 5. However, compared to Alternative 2, Alternative 3 is likely slightly more negative for MMPA species that have exceeded PBR and slightly less positive for MMPA species that have not exceeded PBR.

Figure 39. Observed Atlantic sturgeon caught in gillnet gear >=5- <7-inch mesh and <5-inch mesh with spiny dogfish as the target species (sturgeon condition as alive, dead, or unknown) for 2017-2019 and 2021-2022. *Data source: Observer data pulled Jan. 2024.*

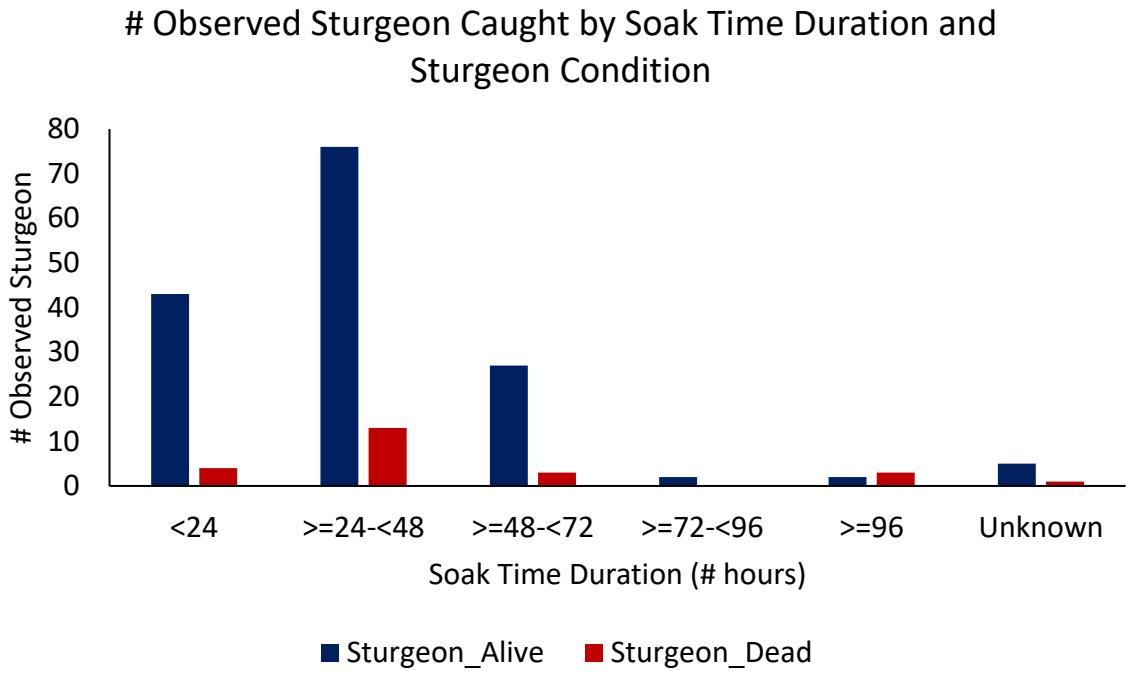


Table 47. Number of sturgeon caught alive and dead based on soak time duration in gillnet gear >=5-<7-inch mesh and <5-inch mesh with spiny dogfish as the target species. *Data source: observer data pulled Jan. 2024.*

Soak Time Duration	# Sturgeon Caught Alive	# Sturgeon Caught Dead	Total # of Sturgeon Caught	% Dead Sturgeon
<24	43	4	47	9%
>=24	112	20	132	15%

6.4.4 Alternative 4 – Low Impact Sturgeon Package (Least Time/Area Closures and Gear Restrictions)

If vessels are willing to travel a maximum of 20 or 50 miles from their original fishing location in the time/area closures described above, modeling (the Decision Support Tool) developed for large whale take reduction suggests that 79% or 37% of the relevant effort in this alternative's closure areas/times would be eliminated (the remainder re-locates), which equates to 3% or 1% of total relevant effort. Relevant effort here is defined as gillnet sets' total soak days from trips landing mostly Monkfish/Skate/Spiny Dogfish/Smooth Dogfish with gillnet mesh larger than 5 inches. The shorter the maximum distance that vessels are able/willing to relocate (only 20 miles versus 50 miles), the more likely effort is eliminated versus re-locating to other areas.

Under Alternative 4, only the most targeted time/area closures and gear restrictions would be implemented in the Atlantic sturgeon bycatch hotspot areas. The results of the sturgeon bycatch reduction analysis indicate that Alternative 4 would reduce sturgeon bycatch by 4.1% or 1.9% coastwide based on gillnet gear shifting up to 20 miles or 50 miles, respectively, from where it is currently fished within each of the

sturgeon bycatch hotspot polygons. The percent reductions could be greater if, as suggested by the literature, Atlantic sturgeon are less numerous in Mid-Atlantic waters beyond the 20m depth contour. A reduction of sturgeon bycatch should also result in a reduction in sturgeon bycatch mortality given that fewer fish would interact with gillnet gear and, therefore, be at risk of dying in the gear. However, this could be offset if shifts in effort result in longer soak times. If that were to occur, then bycatch mortality would remain the same or increase, overall, given the increased likelihood of sturgeon mortality with increasing soak time. The requirement to use low profile gillnet gear in the NJ sturgeon bycatch hotspot polygon beginning January 1, 2026, for the month of December is expected to reduce the number of sturgeon that are incidentally caught while retaining enough of the targeted catch. However, the extent of sturgeon bycatch reduction is highly uncertain given the limited period in which low-profile gear would be required and whether it would be set in areas within the polygon that overlapped with Atlantic sturgeon distribution.

The overnight soak prohibition from May 1- May 31 and from December 1-December 31 for vessels with a federal fishing permit targeting spiny dogfish in the NJ sturgeon bycatch hotspot polygon is expected to reduce the amount of sturgeon bycatch although the extent of the reduction is uncertain. More importantly, the overnight soak prohibition would effectively eliminate the likelihood of sturgeon mortality in the gear in all but exceptional circumstances. The majority of observed Atlantic sturgeon that are captured in gillnet gear targeting spiny dogfish are alive when the gear is hauled (Figure 39, Table 47). Nevertheless, any mortality negatively impacts endangered Atlantic sturgeon. To inform this impacts analysis we, therefore, focused on the number of sturgeon found alive in gear that was soaked for < 24 hours. Data collected for gear that was soaked for more than 24 hours is less informative because there is no way of knowing when the sturgeon was captured in the gear. Based on preliminary analysis of observer data (2015-2022 with dogfish as target 1 and target 2 species), no Atlantic sturgeon have died when captured in gillnet gear targeting spiny dogfish that was soaked for less than 16 hours. Therefore, the overnight soak prohibition would reduce mortality of Atlantic sturgeon compared to current operation of the fishery.

Each of the sturgeon bycatch hotspot polygons under Alternative 4 overlap in total or in part with management areas defined under the HPTRP that are also closed to large mesh (7-18-inch) and/or small mesh (>5-<7-inch) gillnet gear at certain times of the year. The closure time periods of this action do not overlap with the HPTRP closures. Therefore, for part of the SNE polygon, gillnet gear fished for the monkfish fishery would be prohibited from March 1-March 31 under the HPTRP, and from December 1-December 31 under this alternative. Similarly, for the NJ sturgeon bycatch polygon, gillnet gear fished in the monkfish fishery would be prohibited from that part of the polygon that overlaps with the HPTRP Northern Mudhole Management Area from February 1-March 15 and April 1-April 20 under the HPTRP and from November 1-November 30 and, if not using low-profile gillnet gear, also December 1-December 31 under this alternative. Gillnet gear fished in the spiny dogfish fishery would be prohibited from that part of the NJ polygon that overlaps with the Northern Mudhole Management Area from January 1-February 14 under the HPTRP requirements, and from November 1-November 30 under this alternative. The effects of the HPTRP requirements are already reflected in the current operation of the fishery. It is possible that the addition of the closures under this alternative to the HPTRP measures already in place could further change fishing behavior (e.g., choosing not to fish in a sturgeon bycatch hotspot polygon even when gillnet gear is not prohibited) that would change the impacts of this action for Atlantic sturgeon. However, we do not have information to inform whether fishing behavior might change.

With the exception of the May 1-May 31 prohibition on overnight soaks for vessels with a federal permit targeting spiny dogfish, none of the Alternative 4 measures would occur when sea turtles were present in the Mid-Atlantic. The prohibition on overnight soaks in the spiny dogfish fishery in the NJ polygon from May 1-May 31 would occur when sea turtles were present in these waters and would benefit sea turtles by reducing the likelihood of interactions with gillnet gear and the likelihood of mortality for sea turtles caught in the gear.

Alternative 4 is likely to have similar impacts for large whales as Alternative 2 and 3 because the distribution of large whales overlap with the sturgeon bycatch hotspot polygons at all times of the year. The reduction in gillnet effort is unlikely to be significant for reducing the risk of large whale entanglements in gillnet gear given the relatively small coastwide reduction in gillnet gear, and given the existing ALWTRP requirements for gillnet gear. The shifts in gillnet gear predicted by the DST are unlikely to change the risk of interaction with large whales with one exception. Shifts in effort to the area adjacent to the southeastern boundary of the SNE polygon would potentially shift winter gillnet effort in December into the southern New England habitat of North Atlantic right whales that was recently described by O'Brien et al. (2022) (Figure 36). Given the species dire status, shifting gillnet effort into areas where North Atlantic right whales aggregate would potentially increase the negative impacts to this species despite the ALWTRP requirements currently in place for gillnet gear.

The distribution of the MMPA species listed in Table 7 overlap with the sturgeon bycatch hotspot polygons. The extent of overlap varies depending on the species and its temporal presence in Southern New England and the Mid-Atlantic. For example, harbor seals, grey seals, harp seals, and hooded seals range widely but primarily occur within New England waters. PBR levels have not been exceeded for any of these pinniped stocks. Therefore, the reduction in gillnet effort resulting from Alternative 2 would, at best, have a slight positive impact for these pinnipeds. Alternative 2 would not add to the negative impacts already experienced by pinnipeds as a result of the monkfish fishery and the spiny dogfish fishery. Similarly, for small cetaceans for which PBR levels have not been exceeded, Alternative 2 would not add to the negative impacts and may, depending on the overlap in distribution with the sturgeon bycatch hotspot polygons, have a slightly positive impact compared to the current operating conditions. Similarly, Alternative 2 would not add to the negative impacts for the offshore, Northern, and Southern Migratory coastal stocks of Common bottlenose dolphins and may provide some benefit from the reduction in gillnet effort. However, we anticipate that any benefit would be limited given the relatively small coastwide reduction in gillnet gear, and the existing BDTRP requirements for gillnet gear.

Alternative 4 would be negative given that interactions between gillnet gear and Atlantic sturgeon would still occur. For all of the ESA-listed species, with the exception of Northern right whales, Alternative 4 would be slightly less negative compared to Alternatives 1 and 5 but more negative than Alternatives 2 or 3. However, Alternative 4 would effectively eliminate sturgeon bycatch mortality in the NJ sturgeon bycatch hotspot polygon for the spiny dogfish fishery in the months of May and December because of the prohibition on overnight soaks. When looking at the spiny dogfish fishery and the combined effect of closures and the prohibition on overnight soaks, Alternative 4 would afford approximately 20 weeks of sturgeon bycatch mortality reduction in the spiny dogfish which is the fewer than under Alternatives 2, 3, and 5. Considering this and the measures for the monkfish fishery, Alternative 4 will have less of an impact for reducing Atlantic sturgeon bycatch mortality in the New Jersey polygon as Alternative 2 and Alternative 3. Alternative 4 has the potential to be slightly more negative compared to Alternatives 1 and 5 for Northern right whales because of shifting more gillnet effort into the Southern New England habitat used by North Atlantic right whales. Alternative 4 is likely slightly more negative for MMPA species compared to Alternatives 2 and 3, and likely has the same level of impacts for MMPA-protected species as Alternatives 1 and 5.

6.4.5 Alternative 5 – Gear-Only Sturgeon Package

The use of low-profile gillnet gear year-round in the NJ sturgeon bycatch hotspot polygon beginning January 1, 2026, is expected to reduce the number of sturgeon incidentally captured in the gear. A reduction in sturgeon caught should also result in a reduction in sturgeon bycatch mortality. The prohibition on overnight soaks for vessels with a federal fishing permit targeting spiny dogfish in the NJ sturgeon bycatch hotspot polygon in the months of May and November, and a prohibition on overnight soaks in the DE/MD/VA bycatch hotspot polygons from November through March is similarly likely to benefit Atlantic sturgeon by reducing the amount of time that the gear could interact with sturgeon

although the extent of the reduction is uncertain. Perhaps more importantly, the overnight soak prohibition would effectively eliminate the likelihood of sturgeon mortality in the gear in all but exceptional circumstances. The overnight soak prohibition from May 1- May 31, November 1-November 30, and from December 1-December 31 for vessels with a federal fishing permit targeting spiny dogfish in the NJ sturgeon bycatch hotspot polygon as well as the overnight soak prohibition in the DE/MD/VA polygons from November 1-March 31 is expected to reduce the amount of sturgeon bycatch although the extent of the reduction is uncertain. More importantly, the overnight soak prohibition would effectively eliminate the likelihood of sturgeon mortality in the gear in all but exceptional circumstances. The majority of observed Atlantic sturgeon that are captured in gillnet gear targeting spiny dogfish are alive when the gear is hauled (Figure 39, Table 47, Figure 39). Nevertheless, any mortality negatively impacts endangered Atlantic sturgeon. To inform this impacts analysis we, therefore, focused on the number of sturgeon found alive in gear that was soaked for < 24 hours. Data collected for gear that was soaked for more than 24 hours is less informative because there is no way of knowing when the sturgeon was captured in the gear. Based on preliminary analysis of observer data (2015-2022 with dogfish as target 1 and target 2 species), no Atlantic sturgeon have died when captured in gillnet gear targeting spiny dogfish that was soaked for less than 16 hours. Therefore, the overnight soak prohibition would reduce mortality of Atlantic sturgeon compared to current operation of the fishery.

The prohibition on overnight soaks in the NJ sturgeon bycatch hotspot polygon for vessels with a federal fishing permit targeting spiny dogfish would only overlap with the distribution of sea turtles in from May 1-May 31. Low profile gillnet gear is unlikely to have any added negative impact for sea turtles but there is no information for whether the gear would benefit sea turtles by reducing sea turtle interactions with gillnet gear.

Alternative 5 would not change the impacts to ESA-listed large whales compared to how the fisheries currently operate. The current ALWTRP measures for gillnet gear would still apply for gillnet gear fished in the monkfish and spiny dogfish fisheries. Similarly, impacts to MMPA protected species would be unchanged from how the fisheries currently operate.

Alternative 5 will be negative for all ESA-listed species. It will be slightly less negative for Atlantic sturgeon compared to Alternative 1. The prohibition on overnight soaks in the spiny dogfish fishery within the NJ polygon and the DE/MA/VA polygons under Alternative 5 would eliminate sturgeon bycatch mortality even though interactions would still occur. Therefore, when looking at the spiny dogfish fishery and the combined effect of closures and the prohibition on overnight soaks, Alternative 5 would afford an additional 4 weeks of sturgeon bycatch mortality reduction compared to Alternative 3, and an additional 8 weeks compared to Alternative 4. Alternative 5 would afford 6 fewer weeks of sturgeon bycatch mortality reduction compared to Alternative 2 for the spiny dogfish fishery. The requirement to use low-profile gillnet gear in the NJ sturgeon bycatch hotspot polygon year-round has the potential to reduce sturgeon bycatch to a greater extent than what would be achieved with the NJ polygon closures under Alternatives 2, 3, and 4. However, the low-profile gillnet gear with a 0.81 mm twine size is still experimental and will also require a change to the HPTRP regulations for it to be used with large-mesh gillnet gear (i.e., >7-inch mesh). Therefore, given the uncertainty, Alternative 5 is as negative or more negative for Atlantic sturgeon compared to Alternatives 2, 3, and 4.

The sub-alternatives would likely result in very similar impacts as the base case for Alternative 5 (and similar relative to other alternatives) because while on one hand they would not remove gear during the night (more negative than the base case) the 5-inch exempted mesh appears to have a lower take rate than larger mesh (see discussion in Section 4), and vessels may adopt more 5-inch mesh instead of switching nets (less negative than the base case).

For sea turtles, Alternative 5 would be very slightly less negative than Alternative 1, more negative than alternatives 2 or 3, and the same level of impact as Alternative 4. Alternative 5 has the same level of negative impacts as Alternative 1 for all large whales and is more negative for large whales compared to Alternatives 2, 3, and 4 with the possible exception of North Atlantic right whales. Alternative 5 is likely slightly more negative for MMPA species compared to Alternatives 2 and 3, and likely has the same level of impacts for MMPA-protected species as Alternatives 1 and 4.

6.5 Impacts on Physical Environment and Essential Fish Habitat

6.5.1 Alternative 1 – No Action

Under Alternative 1 (No Action), the current federal measures for the monkfish and spiny dogfish gillnet fisheries would remain – new measures to reduce sturgeon bycatch would not be implemented in 2024 through Council action.

The impacts of Alternative 1 on the physical environment and EFH would likely be negligible to slight negative because monkfish and spiny dogfish fishing activity would continue using both gillnet and other gear types, which would not actively improve habitat. Alternative 1 is negligible relative to Alternatives 2, 3, 4, and 5. Because this action is focused only on the monkfish and spiny dogfish gillnet fisheries (e.g., not trawl or other gear types), changes in gillnet effort will not affect the magnitude of habitat impacts associated with these two gillnet fisheries given gillnet gear has minimal and temporary effects on seafloor habitats and EFH. Regardless of changes to the gillnet fishery other gear types will continue to be used in these fisheries and would have similar ongoing impacts as in the past. The focus of this action is on changes to the gillnet fishery which comprises the majority of effort in both fisheries. In addition, gear modifications (low-profile gillnet gear and overnight soak prohibition) are not likely to change impacts to habitat and EFH. As a result, there are not likely to be differences between the alternatives under consideration.

6.5.2 Alternative 2 – High Impact Sturgeon Package (Most Time/Area Closures and Gear Restrictions)

Under Alternative 2, there would be a broad array of time/area closures and gear restrictions for both the federal monkfish and spiny dogfish gillnet fisheries in the Atlantic sturgeon bycatch hotspot areas. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon.

The impacts of Alternative 2 on the physical environment and EFH would likely be negligible to slight negative because monkfish and spiny dogfish fishing activity would continue using both gillnet and other gear types, which would not actively improve habitat. Alternative 2 is negligible relative to Alternatives 1, 3, 4, and 5. Because this action is focused only on the monkfish and spiny dogfish gillnet fisheries (e.g., not trawl or other gear types), changes in gillnet effort will not affect the magnitude of habitat impacts associated with these two gillnet fisheries given gillnet gear has minimal and temporary effects on seafloor habitats and EFH. Expected changes in fishing effort are further explained in Section 6.2.2. Regardless of changes to the gillnet fishery, other gear types will continue to be used in these fisheries and would have similar ongoing impacts as in the past. The focus of this action is on changes to the gillnet fishery which comprises the majority of effort in both fisheries. In addition, gear modifications

(low-profile gillnet gear) are not likely to change impacts to habitat and EFH. As a result, there are not likely to be differences between the alternatives under consideration.

6.5.3 Alternative 3 – Intermediate Impact Sturgeon Package

Under Alternative 3, a subset of the time/area closures and gear restrictions under consideration in Alternative 2 for both the federal monkfish and spiny dogfish fisheries would be implemented in the Atlantic sturgeon bycatch hotspot areas. This alternative is the intermediate alternative under consideration in terms of impacts. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon and an overnight soak time prohibition for vessels with federal spiny dogfish permits using gillnet gear in the New Jersey bycatch hotspot area.

The impacts of Alternative 3 on the physical environment and EFH would likely be negligible to slight negative because monkfish and spiny dogfish fishing activity would continue using both gillnet and other gear types, which would not actively improve habitat. Alternative 3 is negligible relative to Alternatives 1, 2, 4, and 5. Because this action is focused only on the monkfish and spiny dogfish gillnet fisheries (e.g., not trawl or other gear types), changes in gillnet effort will not affect the magnitude of habitat impacts associated with these two gillnet fisheries given gillnet gear has minimal and temporary effects on seafloor habitats and EFH. Expected changes in fishing effort are further explained in Section 6.2.2. Regardless of changes to the gillnet fishery other gear types will continue to be used in these fisheries and would have similar ongoing impacts as in the past. The focus of this action is on changes to the gillnet fishery which comprises the majority of effort in both fisheries. In addition, gear modifications (low-profile gillnet gear and overnight soak prohibition) are not likely to change impacts to habitat and EFH. As a result, there are not likely to be differences between the alternatives under consideration.

6.5.4 Alternative 4 – Low Impact Sturgeon Package (Least Time/Area Closures and Gear Restrictions)

Under Alternative 4, only the most targeted time/area closures and gear restrictions under consideration for both the federal monkfish and spiny dogfish fisheries would be implemented in the Atlantic sturgeon bycatch hotspot areas (Figure 5, Figure 6, Figure 7

Figure 7). This alternative has the fewest measures, based on times where observed sturgeon bycatch is the highest. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon and an overnight soak time prohibition for vessels with federal spiny dogfish permits using gillnet gear in the New Jersey bycatch hotspot polygon.

The impacts of Alternative 4 on the physical environment and EFH would likely be negligible to slight negative because monkfish and spiny dogfish fishing activity would continue using both gillnet and other gear types, which would not actively improve habitat. Alternative 4 is negligible relative to Alternatives 1, 2, 3, and 5. Because this action is focused only on the monkfish and spiny dogfish gillnet fisheries (e.g., not trawl or other gear types), changes in gillnet effort will not affect the magnitude of habitat impacts associated with these two gillnet fisheries given gillnet gear has minimal and temporary effects

on seafloor habitats and EFH. Expected changes in fishing effort are further explained in Section 6.2.2. Regardless of changes to the gillnet fishery other gear types will continue to be used in these fisheries and would have similar ongoing impacts as in the past. The focus of this action is on changes to the gillnet fishery which comprises the majority of effort in both fisheries. In addition, gear modifications (low-profile gillnet gear and overnight soak prohibition) are not likely to change impacts to habitat and EFH. As a result, there are not likely to be differences between the alternatives under consideration.

6.5.5 Alternative 5 – Gear-Only Sturgeon Package

Under Alternative 5, there would be gear restrictions for both the federal monkfish and spiny dogfish fisheries in several Atlantic sturgeon bycatch hotspot areas. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon and an overnight soak time prohibition for vessels with federal spiny dogfish permits using gillnet gear in the New Jersey bycatch hotspot polygon and in the Delaware/Maryland/Virgina bycatch hotspot area.

The impacts of Alternative 5 including Sub-alternatives 5A and 5B on the physical environment and EFH would likely be negligible to slight negative because monkfish and spiny dogfish fishing activity would continue using both gillnet and other gear types, which would not actively improve habitat. Alternative 5 is negligible relative to Alternatives 1, 2, 3, and 4. Because this action is focused only on the monkfish and spiny dogfish gillnet fisheries (e.g., not trawl or other gear types), changes in gillnet effort will not affect the magnitude of habitat impacts associated with these two gillnet fisheries given gillnet gear has minimal and temporary effects on seafloor habitats and EFH. Expected changes in fishing effort are further explained in Section 6.2.2. Regardless of changes to the gillnet fishery other gear types will continue to be used in these fisheries and would have similar ongoing impacts as in the past. The focus of this action is on changes to the gillnet fishery which comprises the majority of effort in both fisheries. In addition, gear modifications (low-profile gillnet gear and overnight soak prohibition) are not likely to change impacts to habitat and EFH. As a result, there are not likely to be differences between the alternatives under consideration.

6.6 IMPACTS ON HUMAN COMMUNITIES

6.6.0 Introduction and Baseline Conditions

Directed recreational fishing for spiny dogfish or monkfish is very low, and no measures in this action would affect recreational fishing, so the focus in this section is on commercial fishing impacts. Where possible, effects on ex-vessel revenues are described. Although ex-vessel revenues are a useful indicator of relative importance for various fisheries and impacts from management measures, we note that the full socio-economic importance of fisheries comes from the overall economic activity, jobs, and personal/community vitality that are supported by the fisheries and their ex-vessel revenues. In fact, when related impact multipliers are considered, the actual economic impact is generally several times larger than mere ex-vessel revenues. The social impacts of regulations relate to changes such as demographics, employment, fishery dependence, safety, attitudes, equity, cultural values, and the well-being of persons, families, and fishing communities (Burdge 1998; NMFS 2007). While difficult to measure, we expect positive social impacts to accompany measures that increase ex-vessel revenues and negative social impacts to accompany measures that decrease ex-vessel revenues. The above concepts apply to each alternative and are not repeated hereafter. The discussion below focuses on changes in catch, but for any of the alternatives that involve low-profile gear (NJ polygon) or mesh requirements (VA exemptions), there is also a cost of acquiring that gear and that is not repeated for each relevant alternative. The smaller twine may also lead to faster gear repair/ replacement cycles. Gear restrictions for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon would be implemented on January 1, 2026 to allow provisioning of gear and hopefully allow fishermen to plan the requirements into their gear replacement cycle to minimize costs.

Spiny Dogfish Fishery Baseline Condition for Socioeconomic Impacts:

The socioeconomic contributions of spiny dogfish have been slightly positive in recent years. The justification for this conclusion includes: Due to the year-to-year variation in catch and effort in the fishery, it is difficult to fully quantify human community impacts but the current fishery supports a number of vessels (though declining in the last decade), as described in Section 5.5, and provides a variety of jobs related directly to fishing and also in associated support services. 79-87 federally-permitted vessels landed over 10,000 pounds of spiny dogfish (measured in live pounds) in the 2020-2022 fishing years, with total spiny dogfish landings ex-vessel revenues averaging $2.5 million (range $2.3-$2.7 million). These ex-vessel amounts are smaller than many other Council-managed species, leading to the "slight" qualifier for positive noted above (also considering the declining participation). For an individual vessel or dealer/processor however, spiny dogfish may be a crucial part of their annual operations. Appendix D describes average 2020-2022 monthly spiny dogfish landings and revenues generally and specific to the areas potentially affected by the sturgeon management measures, which will help contextualize the impacts of the alternatives.

Monkfish Fishery Baseline Condition for Socioeconomic Impacts:

The socioeconomic contributions of monkfish have been moderate positive in recent years. The justification for this conclusion includes: Due to the year-to-year variation in catch and effort in the fishery, it is difficult to fully quantify human community impacts but the current fishery supports a number of vessels as described in Section 5.5, and provides a variety of jobs related directly to fishing and also in associated support services. 90-108 federally-permitted vessels landed over 10,000 pounds of monkfish (measured in landed pounds) in the 2020-2022 fishing years, with total monkfish landings ex-vessel revenues averaging $10.7 million (range $8.6-$12.2 million). The "moderate" qualifier for positive is used given these revenues were substantially lower than the preceding decade. For an individual vessel

or dealer/processor however, monkfish may be a crucial part of their annual operations. As described in Section 5.5, skates, groundfish, and other fish make up a substantial portion of revenues on trips using monkfish DAS (39% in the 2021 fishing year), so the ability to target monkfish also likely facilitates these other revenues as well. If monkfish trips are disrupted, there will likely be additional revenue losses tied to the other fish that are often retained on monkfish trips. Appendix D describes average 2020-2022 monthly monkfish landings and revenues generally and specific to the areas potentially affected by the sturgeon management measures, which will help contextualize the impacts of the alternatives.

Sturgeon Baseline Condition for Socioeconomic Impacts:

The socioeconomic contributions of sturgeon have been high negative in recent years. The justification for this conclusion includes: In the Endangered Species Act of 1973, the U.S. Congress declared that extinct species and/or species in danger of extinction: "are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people." These values are diminished and/or at risk for any endangered species. Landings value has also been lost. Sturgeon supported commercial landings generally between 40 metric tons (MT) (about 88,000 pounds) and 80 MT (about 176,000 pounds) from 1950 through the early 1990s, as well as landings as high as 3,000 MT (about 6.6 million pounds) for several years in the late 1800s.

6.6.1 Alternative 1 – No Action

Under Alternative 1 (No Action), the current federal measures for the monkfish and spiny dogfish gillnet fisheries would remain – new measures to reduce sturgeon bycatch would not be implemented in 2024 through Council action.

No action should maintain the socioeconomic baselines for these fisheries/resources described above – slight positive for spiny dogfish and moderate positive for monkfish as the fisheries should continue to generate ex-vessel revenues and support relevant communities. Given the impacts discussed below for the action alternatives, this would be more positive than any of the action alternatives.

Given the following discussion, socioeconomic impacts from Alternative 1 related to the sturgeon fishery/resource would likely still be high negative, and slightly more negative versus any of the other action alternatives given they would likely reduce bycatch and/or bycatch mortality to some degree.

Any population improvements could lead to socioeconomic benefits related to society's value of avoiding sturgeon's extinction as well as any potential future fishery value. The 2007 Atlantic sturgeon assessment (several quotes from the assessment follow in this paragraph) found that "anthropogenic mortality (e.g., bycatch and ship strikes) may exceed acceptable levels, reducing recovery rates." The assessment also noted that "Changes in carrying capacity coastwide are unknown, though it is assumed freshwater habitat has declined in quality and/or quantity," concluding "that the primary threats to the recovery of Atlantic sturgeon stocks include bycatch mortality, ship strikes, and habitat loss and degradation." Without a traditional assessment model and reference points (which would require "significant investment in collection of basic life history information, expansion of Atlantic sturgeon monitoring efforts, etc."), it is not possible to quantify the population effects of Alternative 1. Given the uncertainty about take reduction, and the uncertainty of the impact of potential take reduction on sturgeon populations amid other threats, the impact differences of no action compared to any action alternatives is likely slight.

6.6.2 Alternative 2 – High Impact Sturgeon Package (Most Time/Area Closures and Gear Restrictions)

Under Alternative 2, there would be a broad array of time/area closures and gear restrictions for both the federal monkfish and spiny dogfish gillnet fisheries in the Atlantic sturgeon bycatch hotspot areas. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon whenever it is not closed.

Monkfish Socioeconomic Impacts – Alternative 2

Research (Fox et al. 2019) indicated no significant difference in monkfish catch rates off NJ with the proposed low-profile gear so the impacts discussed below focus on other aspects of this Alternative.

Given the following discussion, socioeconomic impacts from Alternative 2 related to the monkfish fishery/resource are likely high negative, and more negative than Alternatives 1, 3, 4 , or 5. If monkfish trips are disrupted, there will likely be additional revenue losses tied to the other fish that are often retained on monkfish trips.

In Appendix D, we considered which months would be most affected by the proposed measures for relevant areas. Months that are blank had zero or confidential (and generally low) landings. Vessels would also likely attempt to re-direct to other species and/or areas, but the net effect of such efforts is not possible to predict, and if they are maximizing their profits now, any forced changes are likely to reduce their profitability.

For Alternative 2 relative to monkfish, the Southern New England area closure would be for April, May, and December. Likewise, the New Jersey closure areas would be for May, the latter half of October, November, and December. Tables 5 (SNE) and 8 (NJ) in Appendix D describe the proportions of affected monthly regional gillnet monkfish landings. May appears the most impacted and April the least impacted for the Southern New England area, while for New Jersey, December is the most impacted and several months had low/confidential landings.

While not all permits/vessels are likely to be active each month in a polygon area, the SNE monkfish polygon appears to have the potential to impact around 220 federally-permitted vessels and 45 dealers. The New Jersey monkfish polygon appears to have the potential to impact around 56 federally-permitted vessels and 15 dealers.

Spiny dogfish Socioeconomic Impacts – Alternative 2

Given the following discussion, socioeconomic impacts from Alternative 2 related to the spiny dogfish fishery/resource are likely high negative, and more negative then Alternatives 1, 3, 4 , or 5.

In Appendix D, we considered which months would be most affected by the proposed measures for relevant areas. Months that are blank had zero or confidential (and generally low) landings. Vessels would also likely attempt to re-direct to other species and/or areas, but the net effect of such efforts is not possible to predict, and if they are maximizing their profits now, any forced changes are likely to reduce their profitability.

For Alternative 2 relative to spiny dogfish, New Jersey's area closure would be for May, the second half of October starting October 15, November, and December. Likewise, the DE/MD/VA closure areas would be for November, December, January, February, and March. Tables 13 (NJ) and 16 (MD/VA) in Appendix D describe the proportions of affected monthly regional gillnet spiny dogfish landings. December appears to be the most impacted for the New Jersey area, while for DE/MD/VA, November is most impacted. For both areas, there are several months with low/confidential landings.

This alternative could impact a substantial proportion of spiny dogfish landings in these states, negatively affecting fishery participants, potentially about 25 federal permits and 9 dealers in New Jersey and about 40 federal permits and 8 dealers in MD/VA.

Sturgeon Socioeconomic Impacts – Alternative 2

Given the following discussion, socioeconomic impacts from Alternative 2 related to the sturgeon fishery/resource would likely still be high negative, slightly less negative versus no-action/Alternative 1, and probably negligibly different from any of the other action alternatives.

Any population improvements could lead to socioeconomic benefits related to society's value of avoiding sturgeon's extinction as well as any potential future fishery value. The 2007 Atlantic sturgeon assessment (several quotes from the assessment follow in this paragraph) found that "anthropogenic mortality (e.g., bycatch and ship strikes) may exceed acceptable levels, reducing recovery rates." The assessment also noted that "Changes in carrying capacity coastwide are unknown, though it is assumed freshwater habitat has declined in quality and/or quantity," concluding "that the primary threats to the recovery of Atlantic sturgeon stocks include bycatch mortality, ship strikes, and habitat loss and degradation." Without a traditional assessment model and reference points (which would require "significant investment in collection of basic life history information, expansion of Atlantic sturgeon monitoring efforts, etc."), it is not possible to quantify the population effects of Alternative 2. Given the uncertainty about take reduction, and the uncertainty of the impact of potential take reduction on sturgeon populations amid other threats, the impact difference compared to no action is slight and differences among any action alternatives are likely negligible.

6.6.3 Alternative 3 – Intermediate Impact Sturgeon Package

Under Alternative 3, a subset of the time/area closures and gear restrictions under consideration in Alternative 2 for both the federal monkfish and spiny dogfish fisheries would be implemented in the Atlantic sturgeon bycatch hotspot areas. This alternative is the intermediate alternative under consideration in terms of impacts. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon when it is not closed and overnight soak time prohibitions for the spiny dogfish fishery in the New Jersey bycatch hotspot polygon.

Monkfish Socioeconomic Impacts – Alternative 3

Research (Fox et al. 2019) indicated no significant difference in monkfish catch rates off NJ with the proposed low-profile gear so the impacts discussed below focus on other aspects of this Alternative.

Given the following discussion, socioeconomic impacts from Alternative 3 related to the monkfish fishery/resource are likely high negative, and more negative than Alternatives 1, 4 , or 5 and less negative than Alternative 2. If monkfish trips are disrupted, there will likely be additional revenue losses tied to the other fish that are often retained on monkfish trips.

In Appendix D, we considered which months would be most affected by the proposed measures for relevant areas. Months that are blank had zero or confidential (and generally low) landings. Vessels would also likely attempt to re-direct to other species and/or areas, but the net effect of such efforts is not possible to predict, and if they are maximizing their profits now, any forced changes are likely to reduce their profitability.

For Alternative 3 relative to monkfish, the Southern New England area closure would be for May and December. Likewise, the New Jersey closure areas would be for December. Tables 5 (SNE) and 8 (NJ) in Appendix D describe the proportions of affected monthly regional gillnet monkfish landings. May appears the most impacted and April the least impacted for the Southern New England area, while for New Jersey, December is the most impacted and several months had low/confidential landings.

While not all permits/vessels are likely to be active each month in a polygon area, the SNE monkfish polygon appears to have the potential to impact around 220 federally-permitted vessels and 45 dealers. The New Jersey monkfish polygon appears to have the potential to impact around 56 federally-permitted vessels and 15 dealers.

Spiny dogfish Socioeconomic Impacts – Alternative 3

Given the following discussion, socioeconomic impacts from Alternative 3 related to the spiny dogfish fishery/resource are likely high negative, and more negative then Alternatives 1, 4 , or 5 but less negative than Alternative 2.

In Appendix D, we considered which months would be most affected by the proposed measures for relevant areas. Months that are blank had zero or confidential (and generally low) landings. Vessels would also likely attempt to re-direct to other species and/or areas, but the net effect of such efforts is not possible to predict, and if they are maximizing their profits now, any forced changes are likely to reduce their profitability.

For Alternative 3 relative to spiny dogfish, New Jersey's area closure would be for November, and December. Likewise, the DE/MD/VA closure areas would be for December, January, and February. Tables 13 (NJ) and 16 (MD/VA) in Appendix D describe the proportions of affected monthly regional gillnet spiny dogfish landings. December appears to be the most impacted for the New Jersey area, while for DE/MD/VA, November is most impacted. For both areas, there are several months with low/confidential landings.

This alternative could impact a substantial proportion of spiny dogfish landings in these states, negatively affecting fishery participants, potentially about 25 federal permits and 9 dealers in New Jersey and about 40 federal permits and 8 dealers in MD/VA.

The Councils received public input that the overnight soak prohibitions in Alternative 3 (effective in May) for spiny dogfish may be feasible for New Jersey given some fishery participants already mostly fish without overnight soaks.

Sturgeon Socioeconomic Impacts – Alternative 3

Given the following discussion, socioeconomic impacts from Alternative 3 related to the sturgeon fishery/resource would likely still be high negative, slightly less negative versus no-action/Alternative 1, and probably negligibly different from any of the other action alternatives.

Any population improvements could lead to socioeconomic benefits related to society's value of avoiding sturgeon's extinction as well as any potential future fishery value. The 2007 Atlantic sturgeon assessment (several quotes from the assessment follow in this paragraph) found that "anthropogenic mortality (e.g., bycatch and ship strikes) may exceed acceptable levels, reducing recovery rates." The assessment also noted that "Changes in carrying capacity coastwide are unknown, though it is assumed freshwater habitat has declined in quality and/or quantity," concluding "that the primary threats to the recovery of Atlantic sturgeon stocks include bycatch mortality, ship strikes, and habitat loss and degradation." Without a traditional assessment model and reference points (which would require "significant investment in collection of basic life history information, expansion of Atlantic sturgeon monitoring efforts, etc."), it is not possible to quantify the population effects of Alternative 3. Given the uncertainty about take reduction, and the uncertainty of the impact of potential take reduction on sturgeon populations amid other threats, the impact difference compared to no action is slight and differences among any action alternatives are likely negligible.

6.6.4 Alternative 4 – Low Impact Sturgeon Package (Least Time/Area Closures and Gear Restrictions)

Under Alternative 4, only the most targeted time/area closures and gear restrictions under consideration for both the federal monkfish and spiny dogfish fisheries would be implemented in the Atlantic sturgeon bycatch hotspot areas (Figure 5, Figure 6, Figure 7). This alternative has the fewest measures, based on times where observed sturgeon bycatch is the highest. The time/area closures and the gear restrictions would apply to federal gillnet fishing vessels targeting monkfish (e.g., vessels using a Monkfish DAS) and vessels with federal spiny dogfish permits using gillnet gear. Gear restrictions include a requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon and overnight soak time prohibitions for the spiny dogfish fishery in the New Jersey bycatch hotspot polygon.

Monkfish Socioeconomic Impacts – Alternative 4

Research (Fox et al. 2019) indicated no significant difference in monkfish catch rates off NJ with the proposed low-profile gear so the impacts discussed below focus on other aspects of this Alternative.

Given the following discussion, socioeconomic impacts from Alternative 4 related to the monkfish fishery/resource are likely slight negative, and more negative than Alternatives 1 or 5 but less negative than Alternatives 2-3. If monkfish trips are disrupted, there will likely be additional revenue losses tied to the other fish that are often retained on monkfish trips.

In Appendix D, we considered which months would be most affected by the proposed measures for relevant areas. Months that are blank had zero or confidential (and generally low) landings. Vessels would also likely attempt to re-direct to other species and/or areas, but the net effect of such efforts is not possible to predict, and if they are maximizing their profits now, any forced changes are likely to reduce their profitability.

For Alternative 4 relative to monkfish, the Southern New England area closure would be for December. Likewise, the New Jersey closure areas would be for November. Tables 5 (SNE) and 8 (NJ) in Appendix D describe the proportions of affected monthly regional gillnet monkfish landings. May appears the most impacted and April the least impacted for the Southern New England area, while for New Jersey, December is the most impacted and several months had low/confidential landings.

While not all permits/vessels are likely to be active each month in a polygon area, the SNE monkfish polygon appears to have the potential to impact around 220 federally-permitted vessels and 45 dealers. The New Jersey monkfish polygon appears to have the potential to impact around 56 federally-permitted vessels and 15 dealers.

Spiny dogfish Socioeconomic Impacts – Alternative 4

Given the following discussion, socioeconomic impacts from Alternative 4 related to the spiny dogfish fishery/resource are likely high negative, and more negative than Alternatives 1 or 5 but less negative than Alternatives 2-3.

In Appendix D, we considered which months would be most affected by the proposed measures for relevant areas. Months that are blank had zero or confidential (and generally low) landings. Vessels would also likely attempt to re-direct to other species and/or areas, but the net effect of such efforts is not possible to predict, and if they are maximizing their profits now, any forced changes are likely to reduce their profitability.

For Alternative 4 relative to spiny dogfish, New Jersey's area closure would be for November. Likewise, the DE/MD/VA closure areas would be for December and January. Tables 13 (NJ) and 16 (MD/VA) in Appendix D describe the proportions of affected monthly regional gillnet spiny dogfish landings. December appears to be the most impacted for the New Jersey area, while for DE/MD/VA, November is most impacted. For both areas, there are several months with low/confidential landings.

This alternative could impact a substantial proportion of spiny dogfish landings in these states, negatively affecting fishery participants, potentially about 25 federal permits and 9 dealers in New Jersey and about 40 federal permits and 8 dealers in MD/VA.

The Councils received public input that the overnight soak prohibitions in Alternative 4 (effective in December and May) for spiny dogfish may be feasible for New Jersey given some fishery participants already mostly fish without overnight soaks.

Sturgeon Socioeconomic Impacts – Alternative 4

Given the following discussion, socioeconomic impacts from Alternative 4 related to the sturgeon fishery/resource would likely still be high negative, slightly less negative versus no-action/Alternative 1, and probably negligibly different from any of the other action alternatives.

Any population improvements could lead to socioeconomic benefits related to society's value of avoiding sturgeon's extinction as well as any potential future fishery value. The 2007 Atlantic sturgeon assessment (several quotes from the assessment follow in this paragraph) found that "anthropogenic mortality (e.g., bycatch and ship strikes) may exceed acceptable levels, reducing recovery rates." The assessment also noted that "Changes in carrying capacity coastwide are unknown, though it is assumed freshwater habitat has declined in quality and/or quantity," concluding "that the primary threats to the recovery of Atlantic sturgeon stocks include bycatch mortality, ship strikes, and habitat loss and degradation." Without a traditional assessment model and reference points (which would require "significant investment in collection of basic life history information, expansion of Atlantic sturgeon monitoring efforts, etc."), it is not possible to quantify the population effects of Alternative 4. Given the uncertainty about take reduction, and the uncertainty of the impact of potential take reduction on sturgeon populations amid other threats, the impact difference compared to no action is slight and differences among any action alternatives are likely negligible.

6.6.5 Alternative 5 – Gear-Only Sturgeon Package

Under Alternative 5, there would be gear restrictions for both the federal monkfish and spiny dogfish fisheries in several Atlantic sturgeon bycatch hotspot areas. Gear restrictions include a year-round requirement for federal vessels targeting monkfish to use low-profile gillnet gear in the New Jersey bycatch hotspot polygon and overnight soak time prohibitions in New Jersey and DE/MD/VA during parts of the year for spiny dogfish fishing when more sturgeon takes were observed.

Monkfish Socioeconomic Impacts – Alternative 5

Research (Fox et al. 2019) indicated no significant difference in monkfish catch rates off NJ with the proposed low-profile gear so the baseline related to monkfish should be maintained – moderate positive impacts similar to the no action/Alternative 1 and high positive compared to Alternatives 2, 3, and 4.

Spiny dogfish Socioeconomic Impacts – Alternative 5

The Councils have received public input that the New Jersey overnight soak prohibitions in Alternative 5 (effective in May and November) for spiny dogfish may be feasible for New Jersey fishermen given some already mostly fish without overnight soaks. To the degree that New Jersey participants can fish successfully with this gear restriction, the baseline related to dogfish should be maintained – slight positive impacts similar to the no action/Alternative 1 and high positive compared to Alternatives 2, 3, and 4.

The Councils have received public input that the DE/MD/VA overnight soak prohibitions in Alternative 5 (effective in November, December, January, February, and March) for spiny dogfish may not be feasible for MD/VA participants given their standard fishing practices that depend on overnight soaks. To the degree that MD/VA participants cannot fish successfully with this gear restriction there would be negative impacts, potentially highly negative and similar to Alternatives 2, 3, and 4 (and high negative compared to Alternative 1). The Councils have also received input that the Alternative 5 sub-alternatives that exempt gear less than 5.25 inches mesh (i.e. allow 5-inch mesh) would mitigate the negative impacts, possibly resulting in slight positive impacts similar to the no action/Alternative 1 and high positive compared to Alternatives 2, 3, 4, as well as Alternative 5 without the exemption contained in the sub-alternatives.

Sturgeon Socioeconomic Impacts – Alternative 5

Given the following discussion, socioeconomic impacts from Alternative 5 related to the sturgeon fishery/resource would likely still be high negative, slightly less negative versus no-action/Alternative 1, and probably negligibly different from any of the other action alternatives.

Any population improvements could lead to socioeconomic benefits related to society's value of avoiding sturgeon's extinction as well as any potential future fishery value. The 2007 Atlantic sturgeon assessment (several quotes from the assessment follow in this paragraph) found that "anthropogenic mortality (e.g., bycatch and ship strikes) may exceed acceptable levels, reducing recovery rates." The assessment also noted that "Changes in carrying capacity coastwide are unknown, though it is assumed freshwater habitat has declined in quality and/or quantity," concluding "that the primary threats to the recovery of Atlantic sturgeon stocks include bycatch mortality, ship strikes, and habitat loss and degradation." Without a traditional assessment model and reference points (which would require "significant investment in collection of basic life history information, expansion of Atlantic sturgeon monitoring efforts, etc."), it is not possible to quantify the population effects of Alternative 5. Given the uncertainty about take reduction, and the uncertainty of the impact of potential take reduction on sturgeon populations amid other threats, the impact difference compared to no action is slight and differences among any action alternatives are likely negligible.

7.0 GLOSSARY

Acceptable Biological Catch (ABC) – A level of a stock or stock complex's annual catch that accounts for the scientific uncertainty in the estimate of OFL.

Annual Catch Limit (ACL) – The level of annual catch of a stock or stock complex that serves as the basis for invoking accountability measures (AMs).

Annual Catch Target (ACT) – An amount of annual catch of a stock or stock complex that is the management target of the fishery.

Adult stage – One of several marked phases or periods in the development and growth of many animals. In vertebrates, the life history stage where the animal is capable of reproducing, as opposed to the juvenile stage.

Adverse effect – Any impact that reduces quality and/or quantity of EFH. May include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include sites-specific of habitat wide impacts, including individual, cumulative, or synergistic consequences of actions.

Aggregation – A group of animals or plants occurring together in a particular location or region.

Accountability Measure (AM) – A management control that prevents ACLs from being exceeded, where possible, and correct or mitigate overages if they occur.

Amendment – a formal change to a fishery management plan (FMP). The Council prepares amendments and submits them to the Secretary of Commerce for review and approval. The Council may also change FMPs through a "framework adjustment procedure".

Availability – refers to the distribution of fish of different ages or sizes relative to that taken in the fishery.

Benthic community – Benthic means the bottom habitat of the ocean and can mean anything as shallow as a salt marsh or the intertidal zone, to areas of the bottom that are several miles deep in the ocean. Benthic community refers to those organisms that live in and on the bottom.

Biological Reference Points – specific values for the variables that describe the state of a fishery system which are used to evaluate its status. Reference points are most often specified in terms of fishing mortality rate and/or spawning stock biomass.

Biomass – The total mass of living matter in a unit area or the weight of a fish stock or portion thereof. Biomass can be listed for beginning of year (Jan 1), Mid-Year, or mean (average during the entire year). Also, biomass can be listed by age group (numbers at age * average weight at age) or summarized by groupings (e.g., age 1+, ages 4+ 5, etc.). See also spawning stock biomass, exploitable biomass, and mean biomass.

Biota – All the plant and animal life of a region.

Bivalve – A class of mollusks having a soft body with platelike gills enclosed within two shells hinged together, e.g., clams, mussels.

Bottom tending mobile gear – All fishing gear that operates on or near the ocean bottom that is actively worked to capture fish or other marine species. Some examples of bottom tending mobile gear are otter trawls and dredges.

Bottom tending static gear – All fishing gear that operates on or near the ocean bottom that is not actively worked; instead, the effectiveness of this gear depends on species moving to the gear which is set in a

particular manner by a vessel, and later retrieved. Some examples of bottom tending static gear are gillnets, traps, and pots.

B_{MSY} – the stock biomass that would produce maximum sustainable yield (MSY) when fished at a level equal to F_{MSY}. For most stocks, B_{MSY} is about ½ of the carrying capacity.

B_{target} – A desirable biomass to maintain fishery stocks. This is usually synonymous with B_{MSY} or its proxy and was set in the original Monkfish FMP as the median of the 3-yr. running average of the 1965-1981 autumn trawl survey biomass index.

$B_{threshold}$ – 1) A limit reference point for biomass that defines an unacceptably low biomass i.e., puts a stock at high risk (recruitment failure, depensation, collapse, reduced long term yields, etc). 2) A biomass threshold that the SFA requires for defining when a stock is overfished. A stock is overfished if its biomass is below $B_{threshold}$. A determination of overfished triggers the SFA requirement for a rebuilding plan to achieve B_{target} as soon as possible, usually not to exceed 10 years except certain requirements are met. For monkfish, $B_{threshold}$ was specified in Framework 2 as 1/2BTarget (see below).

Bycatch – (v.) the capture of nontarget species in directed fisheries which occurs because fishing gear and methods are not selective enough to catch only target species; (n.) fish which are harvested in a fishery but are not sold or kept for personal use, including economic discards and regulatory discards but not fish released alive under a recreational catch and release fishery management program.

Capacity – the level of output a fishing fleet can produce given specified conditions and constraints. Maximum fishing capacity results when all fishing capital is applied over the maximum amount of available (or permitted) fishing time, if all variable inputs are utilized efficiently.

Catch – The total of fish killed in a fishery in a period. Catch is given in either weight or number of fish and may include landings, unreported landings, discards, and incidental deaths.

Coarse sediment – Sediment generally of the sand and gravel classes; not sediment composed primarily of mud; but the meaning depends on the context, e.g., within the mud class, silt is coarser than clay.

Continental shelf waters – The waters overlying the continental shelf, which extends seaward from the shoreline and deepens gradually to the point where the sea floor begins a slightly steeper descent to the deep ocean floor; the depth of the shelf edge varies but is about 200 meters in many regions.

CPUE – Catch per unit effort. This measure includes landings and discards (live and dead), often expressed per hour of fishing time, per day fished, or per day-at-sea.

DAS (day-at-sea) – A day-at-sea is an allocation of time that a vessel may be at-sea on a fishing trip. For vessels with VMS equipment, it is the cumulative time that a vessel is seaward of the VMS demarcation line. For vessels without VMS equipment, it is the cumulative time between when a fisherman calls in to leave port to the time that the fisherman calls in to report that the vessel has returned to port.

Demersal species – Most often refers to fish that live on or near the ocean bottom. They are often called benthic fish, groundfish, or bottom fish.

Discards – animals returned to sea after being caught; see Bycatch (n.)

Environmental Impact Statement (EIS) – an analysis of the expected impacts of a fishery management plan (or some other proposed federal action) on the environment and on people, initially prepared as a "Draft" (DEIS) for public comment. The Final EIS is referred to as the Final Environmental Impact Statement (FEIS).

Essential Fish Habitat (EFH) – Those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. The EFH designation for most managed species in this region is based on

a legal text definition and geographical area that are described in the Habitat Omnibus Amendment 2 (NEFMC 2016).

Exclusive Economic Zone (EEZ) – for the purposes of the Magnuson-Stevens Fishery Conservation and Management Act, the area from the seaward boundary of each of the coastal states to 200 nautical miles from the baseline.

Exempted fisheries – Any fishery determined by the Regional Director to have less than 5 percent regulated species as a bycatch (by weight) of total catch according to 50 CFR 648.80(a)(7).

Exploitation Rate – the percentage of catchable fish killed by fishing every year. If a fish stock has 1,000,000 fish large enough to be caught by fishing gear and 550,000 are killed by fishing during the year, the annual exploitation rate is 55%.

Fathom – A measure of length, containing six feet; the space to which a man can extend his arms; used chiefly in measuring cables, cordage, and the depth of navigable water by soundings.

Fishing effort – the amount of time and fishing power used to harvest fish. Fishing power is a function of gear size, boat size and horsepower.

Fishing Mortality (F) – (see also exploitation rate) a measurement of the rate of removal of fish from a population by fishing. F is that rate at which fish are harvested at any given point in time. ("Exploitation rate" is an annual rate of removal, "F" is an instantaneous rate.)

$\mathbf{F_{0.1}}$ – F at which the increase in yield-per-recruit in weight for an increase in a unit-of effort is only 10% of that produced in an unexploited stock; usually considered a conservative target fishing mortality rate.

$\mathbf{F_{MSY}}$ – a fishing mortality rate that would produce the maximum sustainable yield from a stock when the stock biomass is at a level capable of producing MSY on a continuing basis.

$\mathbf{F_{MAX}}$ – the fishing mortality rate that produces the maximum level of yield per recruit. This is the point beyond which growth overfishing begins.

$\mathbf{F_{target}}$ – the fishing mortality that management measures are designed to achieve.

$\mathbf{F_{threshold}}$ – 1) The maximum fishing mortality rate allowed on a stock and used to define overfishing for status determination. 2) The maximum fishing mortality rate allowed for a given biomass as defined by a control rule.

FMP (Fishery Management Plan) – a document that describes a fishery and establishes measures to manage it. This document forms the basis for federal regulations for fisheries managed under the Regional Fishery Management Councils. The New England Fishery Management Council prepares FMPs and submits them to the Secretary of Commerce for approval and implementation.

Framework adjustments: adjustments within a range of measures previously specified in a fishery management plan (FMP). A change usually can be made more quickly and easily by a framework adjustment than through an amendment. For plans developed by the New England Council, the procedure requires at least two Council meetings including at least one public hearing and an evaluation of environmental impacts not already analyzed as part of the FMP.

Individual Fishing Quota (IFQ) – A Federal permit under a limited access system to harvest a quantity of fish, expressed by a unit or units representing a percentage of the total allowable catch of a fishery that may be received or held for exclusive use by an individual person or entity

Landings – The portion of the catch that is harvested for personal use or sold.

Larvae (or Larval) stage – One of several marked phases or periods in the development and growth of many animals. The first stage of development after hatching from the egg for many fish and

invertebrates. This life stage looks fundamentally different than the juvenile and adult stages and is incapable of reproduction; it must undergo metamorphosis into the juvenile or adult shape or form.

Limited access – a management system that limits the number of participants in a fishery. Usually, qualification for this system is based on historic participation, and the participants remain constant over time (except for attrition).

Limited-access permit – A permit issued to vessels that met certain qualification criteria by a specified date (the "control date").

LPUE – Landings per unit effort. This measure is the same as CPUE but excludes discards.

Maximum sustainable yield (MSY) – the largest average catch that can be taken from a stock under existing environmental conditions.

Mesh selectivity (ogive) – A mathematical model used to describe the selectivity of a mesh size (proportion of fish at a specific length retained by mesh) for the entire population. L25 is the length where 25% of the fish encountered are retained by the mesh. L50 is the length where 50% of the fish encountered are retained by the mesh.

Meter – A measure of length, equal to 39.37 English inches, the standard of linear measure in the metric system of weights and measures. It was intended to be, and is very nearly, the ten millionth part of the distance from the equator to the north pole, as ascertained by actual measurement of an arc of a meridian.

Metric ton (mt) – A unit of weight equal to 1,000 kilograms (1kg = 2.2 lb). A metric ton is equivalent to 2,204.6 lb. A thousand metric tons is equivalent to 2.204M lb.

Minimum biomass level – the minimum stock size (or biomass) below which there is a significantly lower chance that the stock will produce enough new fish to sustain itself over the long term.

Mortality – Noun, either referring to fishing mortality (F) or total mortality (Z).

Multispecies – the group of species managed under the Northeast Multispecies Fishery Management Plan. This group includes whiting, red hake and ocean pout plus the regulated species (cod, haddock, pollock, yellowtail flounder, winter flounder, witch flounder, American plaice, windowpane flounder, white hake and redfish).

Natural Mortality (M) – a measurement of the rate of fish deaths from all causes other than fishing such as predation, cannibalism, disease, starvation, and pollution; the rate of natural mortality may vary from species to species.

Northeast Shelf Ecosystem – The Northeast U.S. Shelf Ecosystem has been described as including the area from the Gulf of Maine south to Cape Hatteras, extending from the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream.

Observer – Any person required or authorized to be carried on a vessel for conservation and management purposes by regulations or permits under this Act.

Overfishing Limit (OFL) – The annual amount of catch that corresponds to the estimate of the maximum fishing mortality threshold applied to a stock or stock complex's abundance and is expressed in terms of numbers or weight of fish.

Open access – Describes a fishery or permit for which there is no qualification criteria to participate. Open-access permits may be issued with restrictions on fishing (for example, the type of gear that may be used or the amount of fish that may be caught).

Optimum yield (OY) – the amount of fish which-

(a) will provide the greatest overall benefit to the Nation, particularly with respect to food

production and recreational opportunities, and taking into account the protection of marine ecosystems;

(b) is prescribed as such on the basis of the maximum sustainable yield from the fishery, as reduced by any relevant economic, social, or ecological factor; and

(c) in the case of an overfished fishery, provides for rebuilding to a level consistent with producing the maximum sustainable yield in such fishery.

Overfished – A conditioned defined when stock biomass is below minimum biomass threshold and the probability of successful spawning production is low.

Overfishing – A level or rate of fishing mortality that jeopardizes the long-term capacity of a stock or stock complex to produce MSY on a continuing basis.

PDT (Plan Development Team) – a group of technical experts responsible for developing and analyzing management measures under the direction of the Council; the Council has a Monkfish PDT that meets to discuss the development of this FMP.

Proposed rule – a federal regulation is often published in the Federal Register as a proposed rule with a time for public comment. After the comment period closes, the proposed regulation may be changed or withdrawn before it is published as a final rule, along with its date of implementation and response to comments.

Rebuilding plan – a plan designed to increase stock biomass to the BMSY level within no more than ten years (or 10 years plus one mean generation period) when a stock has been declared overfished.

Recruitment overfishing – fishing at an exploitation rate that reduces the population biomass to a point where recruitment is substantially reduced.

Recruitment – the amount of fish added to the fishery each year due to growth and/or migration into the fishing area. For example, the number of fish that grow to become vulnerable to fishing gear in one year would be the recruitment to the fishery. "Recruitment" also refers to new year classes entering the population (prior to recruiting to the fishery).

Regulated groundfish species – cod, haddock, pollock, yellowtail flounder, winter flounder, witch flounder, American plaice, windowpane flounder, white hake, and redfish. These species are usually targeted with large-mesh net gear.

Relative exploitation – an index of exploitation derived by dividing landings by trawl survey biomass. This variable does not provide an estimate of the proportion of removals from the stock due to fishing but allows for general statements about trends in exploitation.

Sediment – Material deposited by water, wind, or glaciers.

Spawning stock biomass (SSB) – the total weight of fish in a stock that sexually mature, i.e., are old enough to reproduce.

Status determination criteria – objective and measurable criteria used to determine if overfishing is occurring or if a stock is in an overfished condition according to the National Standard Guidelines.

Stock assessment – An analysis for determining the number (abundance/biomass) and status (life-history characteristics, including age distribution, natural mortality rate, age at maturity, fecundity as a function of age) of individuals in a stock.

Stock – A grouping of fish usually based on genetic relationship, geographic distribution and movement patterns. A region may have more than one stock of a species (for example, Gulf of Maine cod and

Georges Bank cod). A species, subspecies, geographical grouping, or other category of fish capable of management as a unit.

Surplus production models – A family of analytical models used to describe stock dynamics based on catch in weight and CPUE time series (fishery dependent or survey) to construct stock biomass history. These models do not require catch at age information. Model outputs may include trends in stock biomass, biomass weighted fishing mortality rates, MSY, FMSY, BMSY, K, (maximum population biomass where stock growth and natural deaths are balanced) and r (intrinsic rate of increase).

Surplus production – Production of new stock biomass defined by recruitment plus somatic growth minus biomass loss due to natural deaths. The rate of surplus production is directly proportional to stock biomass and its relative distance from the maximum stock size at carrying capacity (K). BMSY is often defined as the biomass that maximizes surplus production rate.

Survival rate (S) – Rate of survival expressed as the fraction of a cohort surviving the period compared to number alive at the beginning of the period (# survivors at the end of the year / numbers alive at the beginning of the year). Pessimists convert survival rates into annual total mortality rate using the relationship A=1-S.

Survival ratio (R/SSB) – an index of the survivability from egg to age-of-recruitment. Declining ratios suggest that the survival rate from egg to age-of-recruitment is declining.

TAC – Total allowable catch is equivalent to the ICL.

TAL – Total allowable landings.

Ten-minute- "squares" of latitude and longitude (TMS) – A measure of geographic space. The actual size of a ten-minute-square varies depending on where it is on the surface of the earth, but in general each square is about 70-80 square nautical miles at 40° of latitude. This is the spatial area that EFH designations, biomass data, and some of the effort data have been classified or grouped for analysis.

Total mortality – The rate of mortality from all sources (fishing, natural, pollution) Total mortality can be expressed as an instantaneous rate (called Z and equal to F + M) or Annual rate (called A and calculated as the ratio of total deaths in a year divided by number alive at the beginning of the year)

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9.0 APPENDICES

9.1 APPENDIX A – ADDITIONAL DECISION SUPPORT TOOL INFORMATION

Additional figures and data tables from DST

Figure 40. Alternative 2 – max distance 20

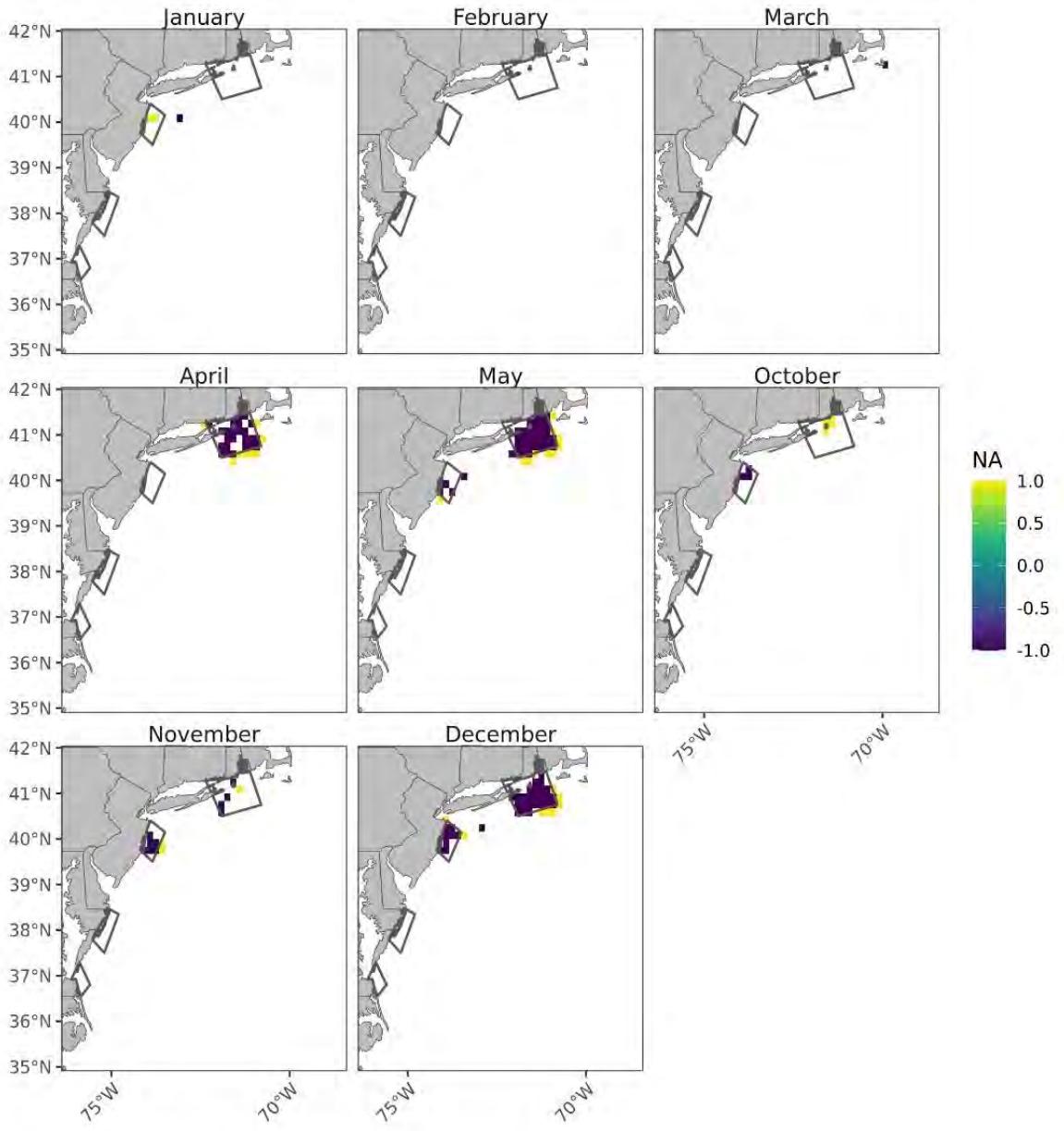

Table 48. Alternative 2 – max distance 20

Gear Numbers – Post Closure

	Variable	Month	Default	Scenario	Reduction
1	GearFished_PostClosure	1	4,109	4,093	0.4 %
2	GearFished_PostClosure	2	2,545	2,528	0.7 %
3	GearFished_PostClosure	3	273	260	4.9 %
4	GearFished_PostClosure	4	6,138	5,856	4.6 %
5	GearFished_PostClosure	5	8,370	6,454	22.9 %
6	GearFished_PostClosure	6	7,241	7,241	0 %
7	GearFished_PostClosure	7	4,019	4,019	0 %
8	GearFished_PostClosure	8	3,634	3,634	0 %
9	GearFished_PostClosure	9	2,358	2,358	0 %
10	GearFished_PostClosure	10	2,754	2,744	0.4 %
11	GearFished_PostClosure	11	3,275	3,209	2 %
12	GearFished_PostClosure	12	3,918	2,150	45.1 %
13	GearFished_PostClosure	Total	48,635	44,545	8.4 %

Figure 41. Alternative 2 - max distance 50

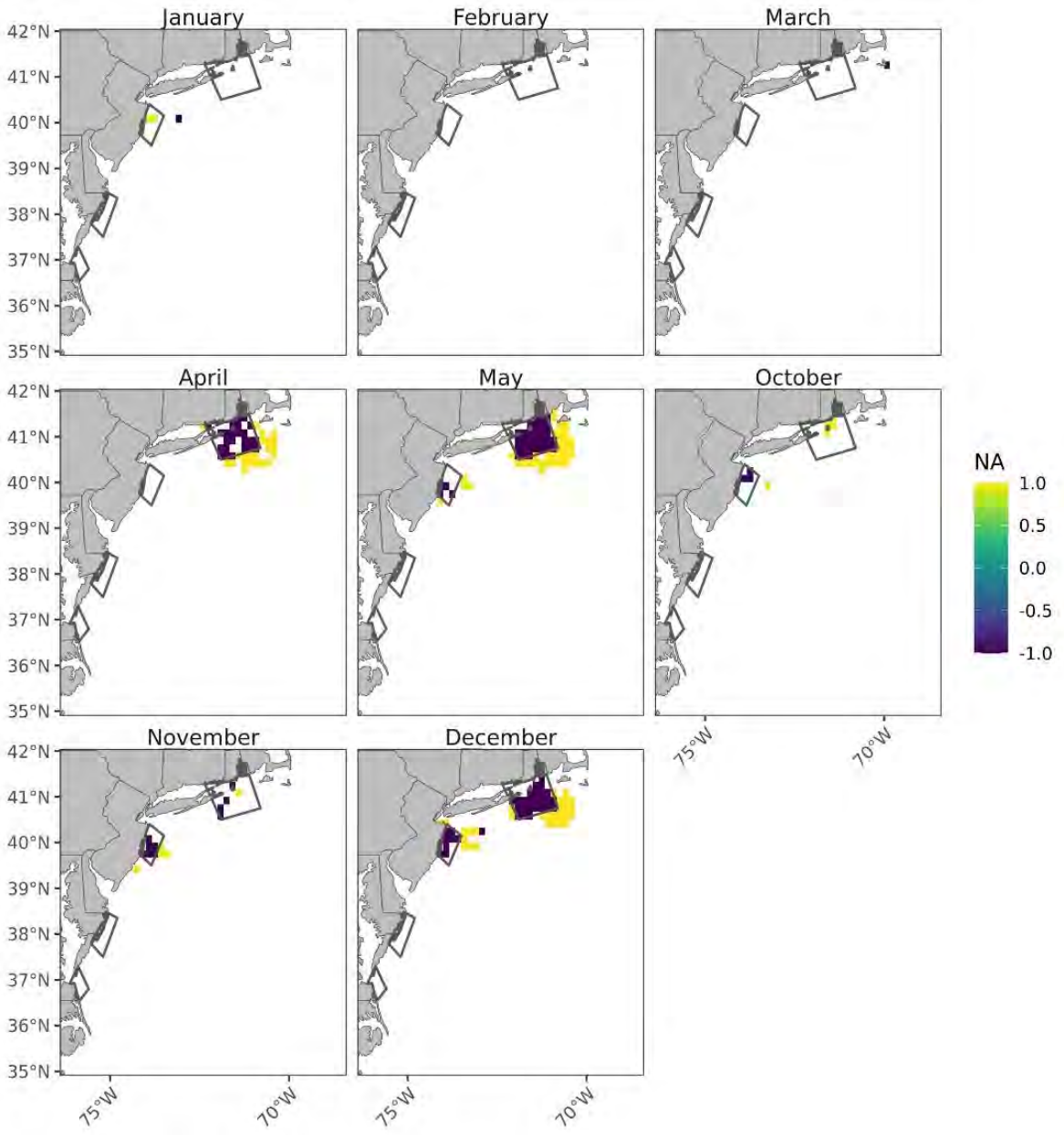

Table 49. Alternative 2 - max distance 50

Gear Numbers – Post Closure

	Variable	Month	Default	Scenario	Reduction
1	GearFished_PostClosure	1	4,109	4,100	0.2 %
2	GearFished_PostClosure	2	2,545	2,537	0.3 %
3	GearFished_PostClosure	3	273	266	2.6 %
4	GearFished_PostClosure	4	6,138	6,113	0.4 %
5	GearFished_PostClosure	5	8,370	8,215	1.9 %
6	GearFished_PostClosure	6	7,241	7,241	0 %
7	GearFished_PostClosure	7	4,019	4,019	0 %
8	GearFished_PostClosure	8	3,634	3,634	0 %
9	GearFished_PostClosure	9	2,358	2,358	0 %
10	GearFished_PostClosure	10	2,754	2,746	0.3 %
11	GearFished_PostClosure	11	3,275	3,273	0.1 %
12	GearFished_PostClosure	12	3,918	3,226	17.7 %
13	GearFished_PostClosure	Total	48,635	47,728	1.9 %

Figure 42. Alternative 3 - max distance 20

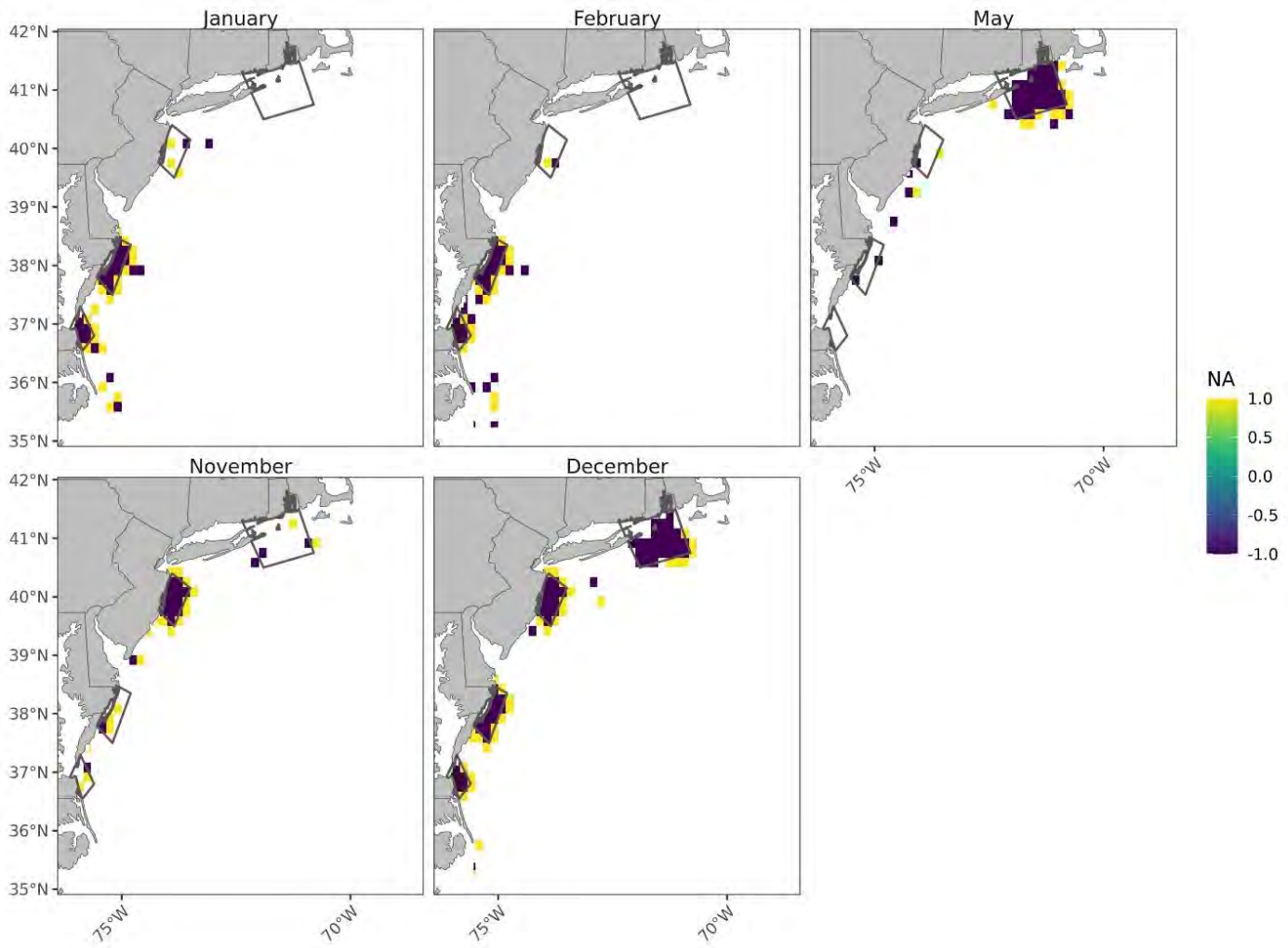

Table 50. Alternative 3 - max distance 20

Gear Numbers – Post Closure

	Variable	Month	Default	Scenario	Reduction
1	GearFished_PostClosure	1	4,109	4,093	0.4 %
2	GearFished_PostClosure	2	2,545	2,528	0.7 %
3	GearFished_PostClosure	3	273	273	0 %
4	GearFished_PostClosure	4	6,138	6,138	0 %
5	GearFished_PostClosure	5	8,370	6,593	21.2 %
6	GearFished_PostClosure	6	7,241	7,241	0 %
7	GearFished_PostClosure	7	4,019	4,019	0 %
8	GearFished_PostClosure	8	3,634	3,634	0 %
9	GearFished_PostClosure	9	2,358	2,358	0 %
10	GearFished_PostClosure	10	2,754	2,754	0 %
11	GearFished_PostClosure	11	3,275	3,265	0.3 %
12	GearFished_PostClosure	12	3,918	2,150	45.1 %
13	GearFished_PostClosure	Total	48,635	45,047	7.4 %

Figure 43. Alternative 3 - max distance 50

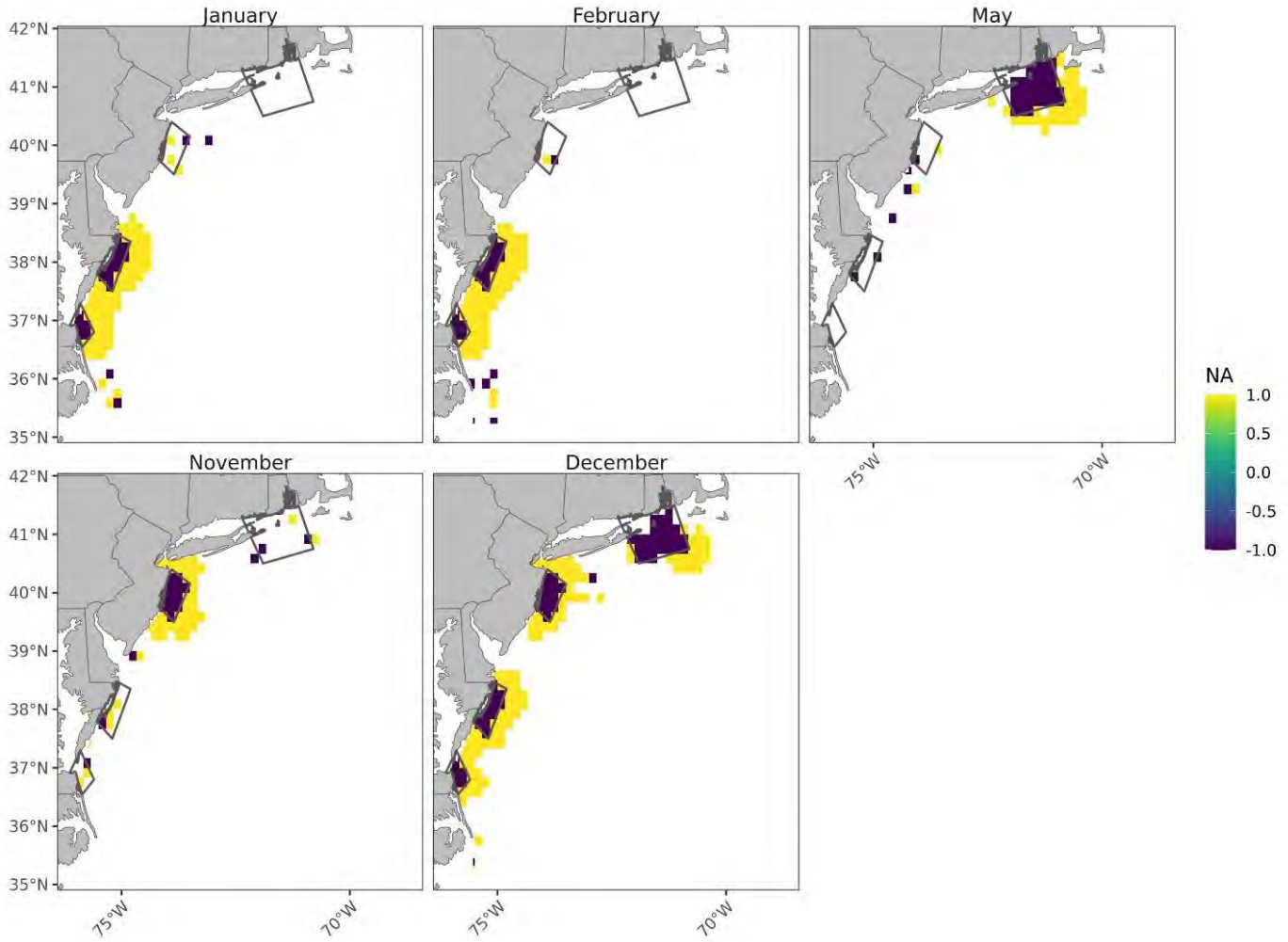

Table 51. Alternative 3 - max distance 50

Gear Numbers – Post Closure

	Variable	Month	Default	Scenario	Reduction
1	GearFished_PostClosure	1	4,109	4,100	0.2 %
2	GearFished_PostClosure	2	2,545	2,537	0.3 %
3	GearFished_PostClosure	3	273	273	0 %
4	GearFished_PostClosure	4	6,138	6,138	0 %
5	GearFished_PostClosure	5	8,370	8,215	1.9 %
6	GearFished_PostClosure	6	7,241	7,241	0 %
7	GearFished_PostClosure	7	4,019	4,019	0 %
8	GearFished_PostClosure	8	3,634	3,634	0 %
9	GearFished_PostClosure	9	2,358	2,358	0 %
10	GearFished_PostClosure	10	2,754	2,754	0 %
11	GearFished_PostClosure	11	3,275	3,275	0 %
12	GearFished_PostClosure	12	3,918	3,226	17.7 %
13	GearFished_PostClosure	Total	48,635	47,771	1.8 %

Figure 44. Alternative 4 - max distance 20

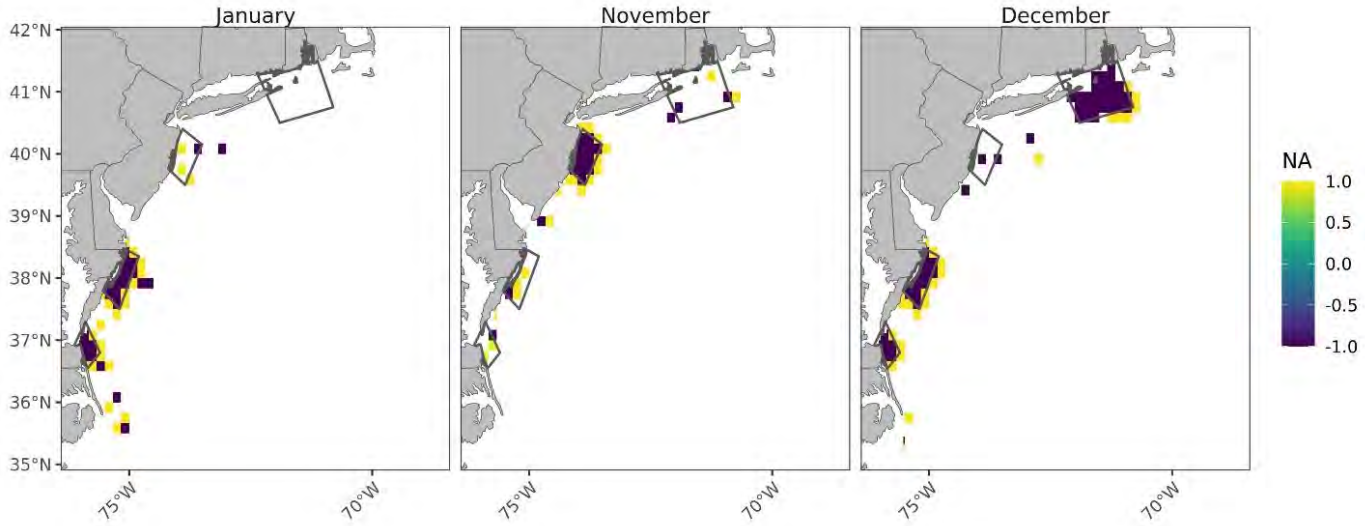

Table 52. Alternative 4 - max distance 20

Gear Numbers − Post Closure

	Variable	Month	Default	Scenario	Reduction
1	GearFished_PostClosure	1	4,109	4,093	0.4 %
2	GearFished_PostClosure	2	2,545	2,545	0 %
3	GearFished_PostClosure	3	273	273	0 %
4	GearFished_PostClosure	4	6,138	6,138	0 %
5	GearFished_PostClosure	5	8,370	8,370	0 %
6	GearFished_PostClosure	6	7,241	7,241	0 %
7	GearFished_PostClosure	7	4,019	4,019	0 %
8	GearFished_PostClosure	8	3,634	3,634	0 %
9	GearFished_PostClosure	9	2,358	2,358	0 %
10	GearFished_PostClosure	10	2,754	2,754	0 %
11	GearFished_PostClosure	11	3,275	3,215	1.8 %
12	GearFished_PostClosure	12	3,918	2,548	35 %
13	GearFished_PostClosure	Total	48,635	47,189	3 %

Figure 45. Alternative 4 - max distance 50

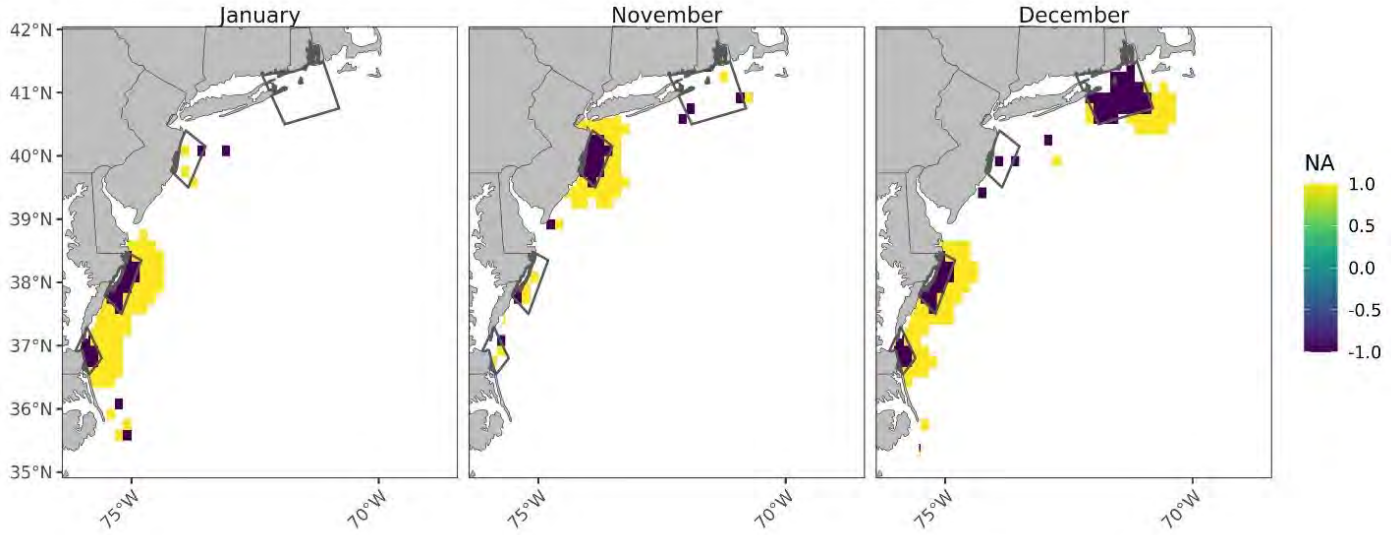

Table 53. Alternative 4 - max distance 50

Gear Numbers – Post Closure

	Variable	Month	Default	Scenario	Reduction
1	GearFished_PostClosure	1	4,109	4,100	0.2 %
2	GearFished_PostClosure	2	2,545	2,545	0 %
3	GearFished_PostClosure	3	273	273	0 %
4	GearFished_PostClosure	4	6,138	6,138	0 %
5	GearFished_PostClosure	5	8,370	8,370	0 %
6	GearFished_PostClosure	6	7,241	7,241	0 %
7	GearFished_PostClosure	7	4,019	4,019	0 %
8	GearFished_PostClosure	8	3,634	3,634	0 %
9	GearFished_PostClosure	9	2,358	2,358	0 %
10	GearFished_PostClosure	10	2,754	2,754	0 %
11	GearFished_PostClosure	11	3,275	3,275	0 %
12	GearFished_PostClosure	12	3,918	3,254	17 %
13	GearFished_PostClosure	Total	48,635	47,961	1.4 %

DST Industry Meeting Notes

From December 2023 through January 2024, the Joint Dogfish/Monkfish FMAT/PDT has been working to package alternatives under consideration in a Joint Framework Action to address Atlantic sturgeon bycatch in the dogfish and monkfish fisheries. To account for the potential effort shifts that may occur as the result of some closure area alternatives under consideration, the FMAT/PDT requested that the Atlantic Large Whale Take Reduction Team's (ALWTRT) Decision Support Tool (DST) be used. The DST team advised that industry input was necessary to accurately model fishing behavior, particularly willingness and ability to change location in response to implementation of closure areas. The FMAT/PDT held a series of two informal sessions with members of industry already familiar with the application of the TRT or who were members of either the monkfish or dogfish advisory panels.

Meeting 1 Jan 9, 2024

Two industry members were in attendance, both from New Jersey.

NMFS GARFO staff explained the current status of the Framework Action under development, the incorporation of the DST in that development and the need for industry input. Industry members were shown the different alternatives packages, including the closure areas.

Feedback was as summarized below:

- The DST simplifies movement; it considers distance between where gear is pre-closure and where it can move to, but it does not consider homeport of the affected vessels. Depending on where a vessel is homeported, a closure could be more or less impactful than the DST might predict.
    - The SNE area in particular may be problematic, since the homeport for the bulk of those vessels may be too far from alternative grounds.
- Since the DST looks at places where people are fishing now to identify where gear could move, it is unable to allocate gear to historic fishing grounds that are not currently fished, but could be.
- The DST does not account for gear conflicts or the space needed between gillnet sets.
- Dynamics that affect fisherman decision-making regarding when and where to set gear are very complex and ever changing. Wind energy development, for example, is unaccounted for, and could affect industry behavior in unpredictable ways. This also affects decision making surrounding decisions to fish at all – all of the compounding issues in the fishery will cause a portion of the industry out of business. Fish prices in these fisheries have not been strong in recent years.
- It would be useful if charts showing these closure areas included others, such as the Harbor Porpoise Take Reduction Plan closures/regulated areas.
- Fishermen from Point Pleasant may steam to the other side of the mudhole

Meeting 2, January 17, 2024

Five industry members were in attendance, with participants from across the affected area (i.e. VA to SNE).

NMFS GARFO staff ran through the same explanation as was provided at the Jan 9 meeting, but the DST team prepared new slides showing the alternatives and DST results.

Feedback was as summarized below:

- A similar discussion as was held on January 9th regarding the lack of information about vessel homeport
- With a monkfish season in SNE that lasts from April to June, a May closure would result in fishermen from RI simply not fishing during that entire period. The effort and cost to start up fishing in the spring just to be shut out in May would prevent the business from being profitable.
    - Areas southeast of the SNE closure do not seem realistic, and may conflict with as yet unknown Atlantic Large Whale measures.
    - One industry member believed that the % of gear removed from SNE in alternative 2 was an underestimate
- There was low confidence in the ability for sturgeon to be adequately tracked and distribution understood.
- Industry members generally did not like data that showed % of coastwide gear affected by the alternatives, given that it may underemphasize the effect these measures would have on affected industry.
- It was noted that the bulk of the bycatch reduction would come from full removal of gear from the water; these fisheries have few alternatives for the participants.
    - There was concern about the potential for success of these closures in comparison to their impact on the fishery.
        - Industry in attendance stated that they were discouraged that they and their cohort would be able to weather the closures as currently structured

- Not relevant to the discussion about effort shifts, but the group did briefly discuss the potential for low-profile gillnet gear as a solution, though more development is needed for it to be widely adoptable by industry

After the conclusion of the meeting, an industry member who had audio trouble reached out to NMFS GARFO staff to communicate comments that he intended to provide during the meeting. These were:

- VA beach closures would result in vessel movement south, where more sturgeon would be expected to be encountered. Any reduction that is achieved by the closure areas would occur as a result of gear removal
    - The area covering the mouth of the bay might be particularly important to close, however.
- Large potential for negative impacts to the dogfish fishery which is already struggling.

9.2 APPENDIX B – FINAL REPORT FROM DR. HOCKING

Atlantic Sturgeon Takes Under Closure Alternatives

Daniel J. Hocking NOAA/NMFS/GARFO January

29, 2024

This analysis calculates the risk of sturgeon takes per unit effort and combines that with various alternative actions involving gillnet closure areas by different months.

Gear Removal and Redistribution

The Large Whale Take Reduction Team's NEFSC analyst, Laura Solinger, used the decision support tool (DST) to evaluate how gear would be moved or not fished under each scenario and relative to the baseline (gillnet gear effort distribution from 2017-2020).

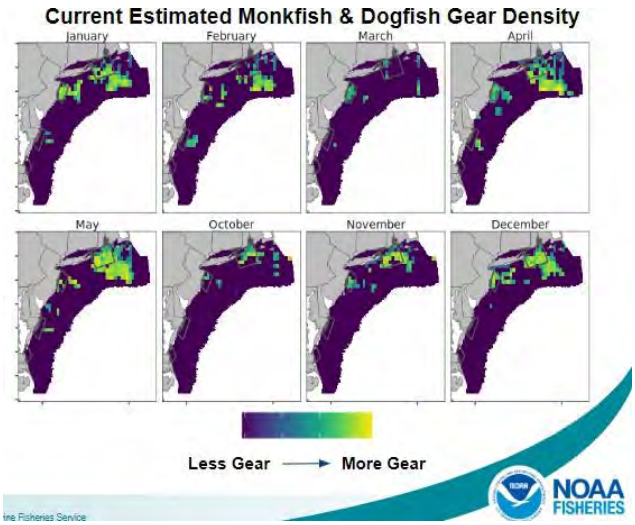

Figure 1: Example of current gillnet gear distribution relative to closure polygons.

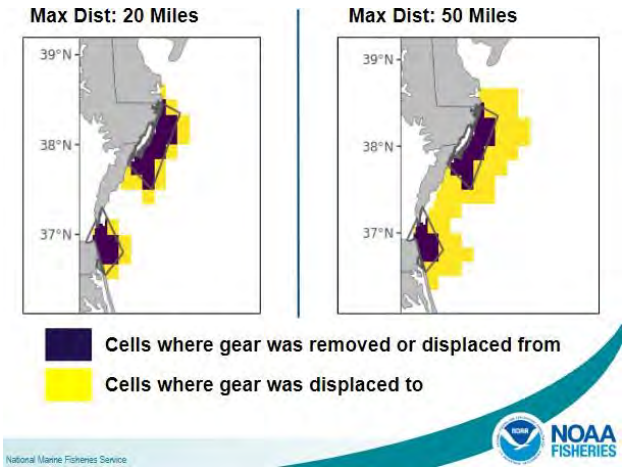

Figure 2: Example of gear redistribution based on maximum distance vessels will move in response to closures.

Create Risk Layer

The Northeast Fisheries Science Center (NEFSC) generated estimates of total annual discards of Atlantic Sturgeon (Acipenser oxyrinchus oxyrinchus) from 2000 - 2022 in the otter trawl and gillnet fisheries. The analysis was conducted most recently by Boucher and Curti (2022) following the methods used by Miller and Shepherd (2011), Miller (2015), and Curti (2016). The general approach was to use observer data to estimate discards as a function of gear type, year, quarter of the year, and species landed. The resulting generalized linear model was then applied to data from all federal commerical gillnet trips.

I created a risk distribution layer for sturgeon by taking the NEFSC sturgeon gillnet take model and predicting it to all gillnet trips from 2012-2022 (2020 drops out due to lack of data in the NEFSC model). Data back to 2012 were used for the risk mapping because sturgeon takes are low probability events and more data was needed to create a smooth layer for when vessels move to areas with previously little fishing effort during 2017-2022. Without going back to 2012 for sturgeon risk the map becomes disjunct with gaps that were difficult to smooth. The trade-off with this approach is that sturgeon populations, movements, and gear selectivity can change over this time frame. However, the informal sensitivity analysis using only 2017 - 2022 data did not show large differences compared to the current analysis.

The expect sturgeon takes on each trip from the model results were then divided by the effort (days fished) on that trip. I removed the upper and lower 5% of effort trips from the risk mapping because effort can be misreported with fixed gear and this change in the denominator would have large effects on the rates (e.g. trip lands thousands of pounds of fish and discarded a sturgeon but the effort was only recorded as 5 minutes resulting in an expectation of 288 sturgeon takes per day at that location). Additionally, a minimum of 2 fishing hours was required for data inclusion in the risk mapping. The point-estimates from trips were then smoothed using inverse distance weighted interpolation by month to create smoother risk layers with gaps filled in. A distance-decay coefficient of 1.8 was used to weight closer trips more and balance local vs regional smoothing effects.

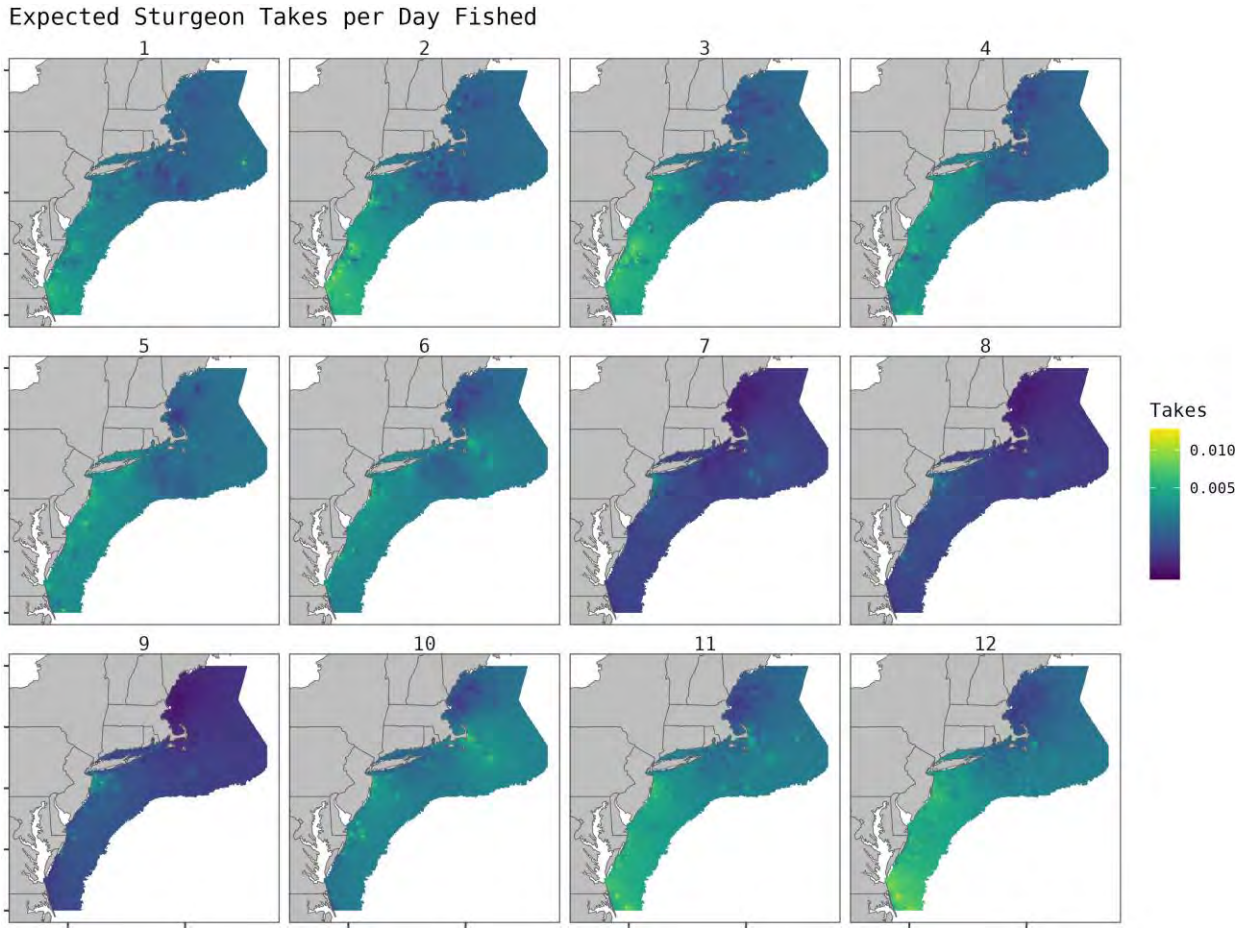

Figure 3: Expected Atlantic sturgeon takes per unit effort (days fished) by month.

Risk x Gear Density

I overlayed the resulting monthly risk maps on the various monthly scenario maps and multiplied the risk per unit effort by the total effort in each raster square to get an index of the total estimated takes in each square under each gear movement/removal scenario. I finally calculated the percent total reduction in sturgeon takes expected under each scenario.

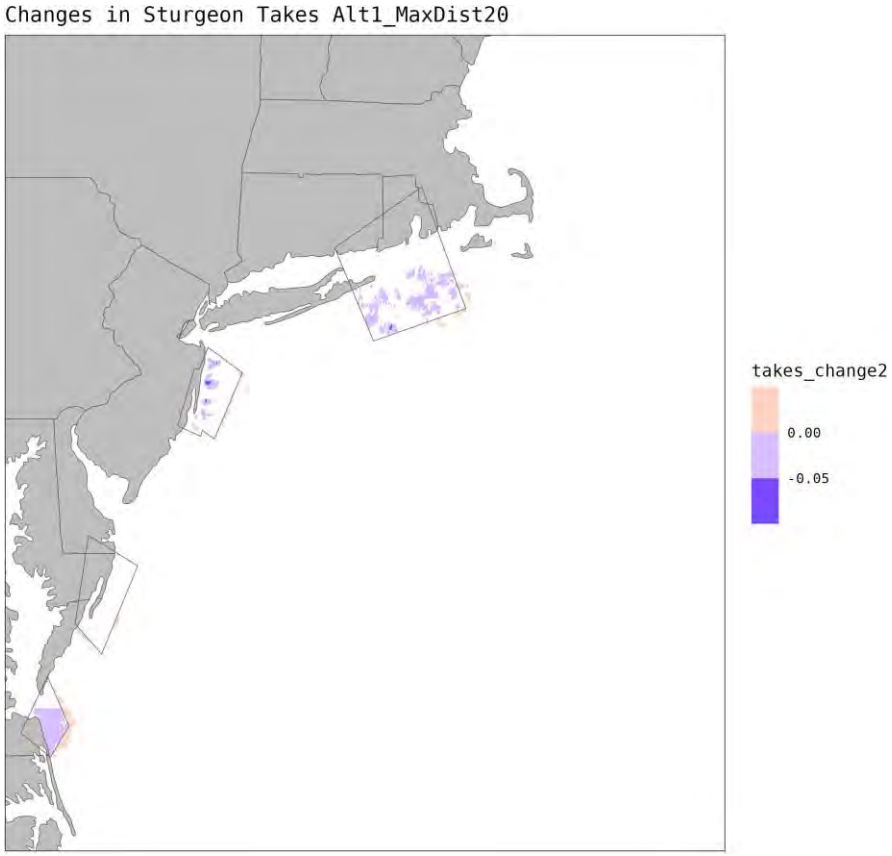

Figure 4: Example of change in sturgeon takes under alternative action 2 in December assuming a maximum distance of 20 nautical miles vessels will move from current fishing areas. In this scenario, most of the gear is removed from fishing due to lack of suitable fishing locations within the maximum distance allowed. Little gear is redistributed.

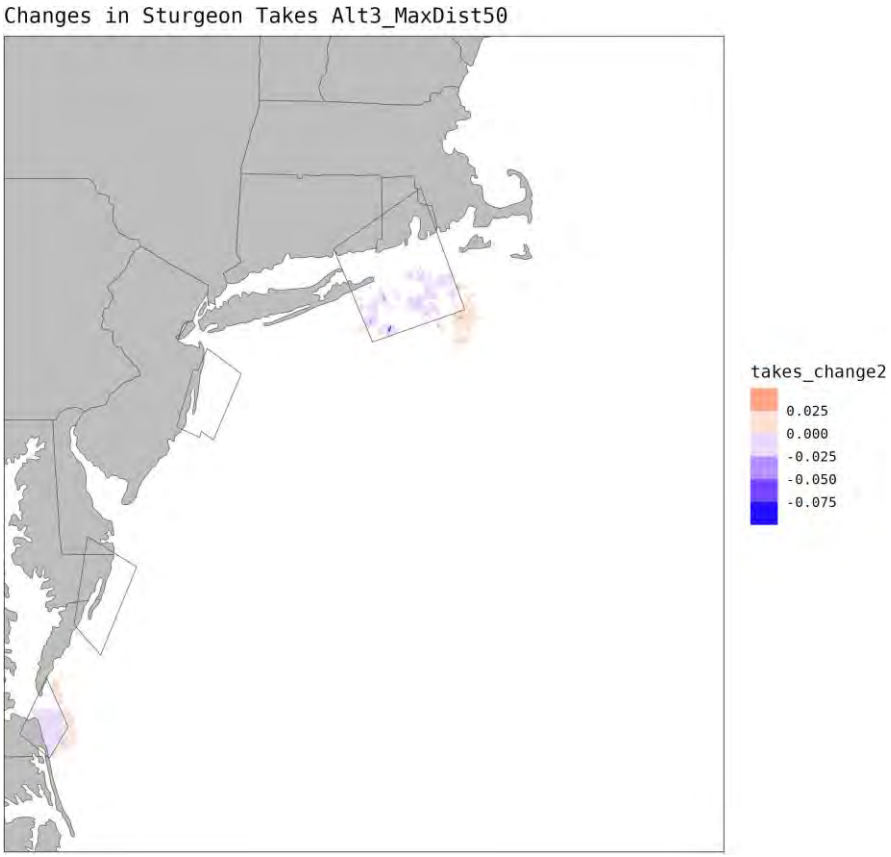

Figure 5: Example of change in sturgeon takes under alternative action 4 in December assuming a maximum distance of 50 nautical miles vessels will move from current fishing areas. In this scenario, most of the gear redistributes to other areas and little is removed. The results is only a slight decrease in expected sturgeon takes.

Table 1: Expected percent reduction of Atlantic Sturgeon takes by federally-permitted vessels using gillnet gears under various actions and behavior (max movement distance) scenarios. Action 1 is 'no action' and other alternatives not involving closures are also not listed.

Action	*Max Distance Move (nm)*	*Percent Reduction*
2	20	13.00%
2	50	4.20%
3	20	10.60%
3	50	3.20%
4	20	4.10%
4	50	1.90%

References

Boucher, J.M. and Curti, K.L. 2022. Discard Estimates for Atlantic Sturgeon through 2021. White paper (unpublished).

Curti, K. 2016. Updated Summary of Discard Estimates for Atlantic Sturgeon (White paper). NOAA/NMFS, Woods Hole, MA: Population Dynamics Branch.

Miller, T. J., and Shepherd, G.R. 2011. Summary of discard estimates for Atlantic sturgeon (White paper). NOAA/NMFS, Woods Hole, MA: Population Dynamics Branch.

Miller, T.J. 2015. Updated summary of discard estimates for Atlantic sturgeon (White paper). NOAA/NMFS, Woods Hole, MA: Population Dynamics Branch. Provided to the Atlantic States Marine Fisheries Commission.

9.3 APPENDIX C – JANUARY 2024 TAKE ESTIMATE UPDATE

Discard Estimates for Atlantic Sturgeon Federal Waters

Daniel J. Hocking NOAA/NMFS/GARFO Last Updated

on 19 January 2024

The Northeast Fisheries Science Center (NEFSC) generated estimates of total annual discards of Atlantic Sturgeon (Acipenser oxyrinchus m.r.yi·inchus) from 2000 - 2021 in the otter trawl and gillnet fisheries. The analysis was conducted most recently by Boucher and Curti (2022) following the methods used by Miller and Shepherd (2011), Miller (2015), and Curti (2016). The general approach was to use observer data to estimate discards as a function of gear type, year, quarter of the year, and species landed. The resulting generalized linear model was then applied to data from modified vessel trip reports (VTR) in the NEFSC VESLOG to estimate total sturgeon discards and resulting mortality for all federally permitted vessels in state and federal waters.

Here we apply the models from Boucher and Curti (2022) to otter trawl and gillnet data on subtrips in federal waters. To best match the data used in the assessment, we used data from the Catch Accounting and Management System (CAMS) but restricted to data with valid latitude and longitude from a VTR that indicated they actively fished in non-coastal waters, as done through VESLOG data in the assessment. We further filtered the data to only trips with VTR fishing locations in federal waters.

The best trawl model did not include any year-specific predictor variables, therefore we were able to estimate discards for all years, including those not in the observer data used for model fitting (e.g. 2020). For years without observer-specific mortality rates, we used the mean across other years. The best gilh1et model included year, species by year, and quarter by year as independent predictors, therefore discards could only be estimated for years used in the model fitting (e.g. not 2020).

The results presented in the tables below are estimates from federally-permitted vessels fishing in federal waters and reporting valid location data. The results do not always coincide precisely with those from the assessment due to slight differences in the data used and in some cases the federal bycatch presented here can be higher than the mean total estimate from the assessment but those are in situations of high uncertainty and fall well within the confidence interval.

Table 1: Annual estimates of Atlantic Sturgeon discards by federally permitted vessels in federal waters using bottom otter trawl gear.

Year	Total Federal Bycatch	Standard Error	Proportion Dead	Dead Bycatch	Lower CI (2.5%)	Upper CI (97.5%)
1996	779	115	0.035	27	20	35
1997	837	99	0.035	30	23	36
1998	749	80	0.035	26	21	32
1999	1446	664	0.035	51	5	97
2000	986	199	0.000	0	0	0
2001	721	79	0.000	0	0	0
2002	804	80	0.000	0	0	0
2003	665	66	0.000	0	0	0
2004	651	60	0.000	0	0	0
2005	639	63	0.143	91	74	109
2006	724	72	0.179	130	104	155
2007	591	68	0.086	51	39	62
2008	721	176	0.161	116	61	172
2009	712	82	0.021	15	12	18
2010	585	53	0.009	5	4	6
2011	557	50	0.000	0	0	0
2012	533	47	0.000	0	0	0
2013	547	53	0.000	0	0	0
2014	493	40	0.000	0	0	0
2015	409	29	0.000	0	0	0
2016	397	30	0.000	0	0	0
2017	359	28	0.000	0	0	0
2018	338	31	0.080	27	22	32
2019	401	33	0.000	0	0	0
2020	369	36	0.035	13	11	16
2021	354	32	0.062	22	18	26
2022	310	26	0.035	11	9	13

Table 2: Annual estimates of Atlantic Sturgeon discards by federally permitted vessels in federal waters using drift or sink gillnet gear.

Year	Total Federal Bycatch	Standard Error	Proportion Dead	Dead Bycatch	Lower CI -2.50%	Upper CI -97.50%
1996			0.297			
1997			0.297			
1998			0.297			
1999			0.297			
2000	1551	582	0.128	199	53	344
2001	607	483	0.298	181	0	463
2002	2643	1989	0.24	634	0	1570
2003	411	116	0.212	87	39	135
2004	957	228	0.487	466	249	684
2005	511	145	0.306	156	69	244
2006	821	172	0.124	102	60	143
2007	781	231	0.2	156	66	247
2008	531	327	0.279	148	0	327
2009	843	270	0.129	109	40	177
2010	392	76	0.507	199	123	274
2011	434	152	0.44	191	60	322
2012	354	85	0.435	154	81	227
2013	1233	390	0.375	462	175	749
2014	482	111	0.333	160	88	233
2015	598	89	0.277	166	117	214
2016	1336	137	0.316	422	337	507
2017	709	91	0.216	153	115	191
2018	885	115	0.265	235	175	294
2019	734	84	0.2	147	114	180
2020			0.297			
2021	393	100	0.462	181	91	272
2022	408	70	0.297	121	80	161

Table 3: Annual percent of Atlantic Sturgeon discards by federally-permitted vessels in federal waters using otter trawl gear.

Year	Total Bycatch	Federal Bycatch	State Bycatch	Percent Federal Waters Bycatch	Proportion Dead	Federal Dead	State Dead	Percent Federal Waters Dead
1996	1569	779	791	49.6	0.035	27	28	49.1
1997	1735	837	898	48.2	0.035	30	31	49.2
1998	1695	749	946	44.2	0.035	26	33	44.1
1999	2840	1446	1394	50.9	0.035	51	49	51
2000	1996	986	1010	49.4	0	0	0	
2001	1872	721	1152	38.5	0	0	0	
2002	1734	804	930	46.4	0	0	0	
2003	1644	665	979	40.5	0	0	0	
2004	1434	651	782	45.4	0	0	0	
2005	1231	639	591	51.9	0.143	91	85	51.7
2006	1391	724	668	52	0.179	130	120	52
2007	1198	591	607	49.3	0.086	51	52	49.5
2008	1283	721	562	56.2	0.161	116	90	56.3
2009	1238	712	526	57.5	0.021	15	11	57.7
2010	1235	585	650	47.4	0.009	5	6	45.5
2011	1206	557	648	46.2	0	0	0	
2012	1120	533	586	47.6	0	0	0	
2013	1206	547	659	45.4	0	0	0	
2014	1078	493	585	45.7	0	0	0	
2015	1005	409	595	40.7	0	0	0	
2016	945	397	548	42	0	0	0	
2017	927	359	567	38.8	0	0	0	
2018	905	338	567	37.3	0.08	27	45	37.5
2019	1001	401	600	40.1	0	0	0	
2020	883	369	514	41.8	0.035	13	18	41.9
2021	805	354	452	43.9	0.062	22	28	44
2022	664	310	354	46.7	0.035	11	12	47.8

Table 4: Annual percent of Atlantic Sturgeon discards by federally-permitted vessels in federal waters using drift or sink gillnet gear.

Year	Total Bycatch	Federal Bycatch	State Bycatch	Percent Federal Waters Bycatch	Proportion Dead	Federal Dead	State Dead	Percent Federal Waters Dead
1996					0.297			
1997					0.297			
1998					0.297			
1999					0.297			
2000	3062	1551	1511	50.6	0.128	199	193	50.8
2001	1717	607	1110	35.4	0.298	181	331	35.4
2002	4058	2643	1415	65.1	0.24	634	340	65.1
2003	2317	411	1906	17.7	0.212	87	404	17.7
2004	1740	957	782	55	0.487	466	381	55
2005	808	511	297	63.3	0.306	156	91	63.2
2006	1439	821	619	57	0.124	102	77	57
2007	1449	781	668	53.9	0.2	156	134	53.8
2008	943	531	412	56.3	0.279	148	115	56.3
2009	1871	843	1028	45.1	0.129	109	133	45
2010	557	392	166	70.3	0.507	199	84	70.3
2011	552	434	118	78.6	0.44	191	52	78.6
2012	483	354	129	73.3	0.435	154	56	73.3
2013	1689	1233	457	73	0.375	462	171	73
2014	707	482	225	68.2	0.333	160	75	68.1
2015	1073	598	475	55.7	0.277	166	131	55.9
2016	1930	1336	594	69.2	0.316	422	188	69.2
2017	1573	709	865	45.1	0.216	153	187	45
2018	1266	885	381	69.9	0.265	235	101	69.9
2019	1274	734	539	57.6	0.2	147	108	57.6
2020					0.297			
2021	692	393	299	56.8	0.462	181	138	56.7
2022	822	408	415	49.6	0.297	121	123	49.6

The percent of sturgeon bycatch and takes by federally-permitted vessels in federal waters relative to these vessels in total ranged from 37.3 to 57.5 for otter trawl trips and from 17.7 to 78.6 on gillnet trips. These percentages to not include any bycatch or takes by state vessels or vessels otherwise not required to submit a VTR.

References

Boucher, J.M. and Curti, KL. 2022. Discard Estimates for Atlantic Sturgeon through 2021. White paper (unpublished).

Curti, K. 2016. Updated Summary of Discard Estimates for Atlantic Sturgeon (White paper). NOAA/NMFS, Woods Hole, MA: Population Dynamics Branch.

Miller, T. .T., and Shepherd, G.R. 2011. Summary of discard estimates for Atlantic stmgeon (White paper). NOAA/NMFS, Woods Hole, MA: Population Dynamics Branch.

Miller, T..J. 2015. Updated summary of discard estimates for Atlantic sturgeon (White paper). NOAA/NMFS, Woods Hole, MA: Population Dynamics Branch. Provided to the Atlantic States Marine Fisheries Commission.

9.4 APPENDIX D – MONKFISH AND DOGFISH LANDINGS RELATIVE TO PROPOSED STURGEON MEASURE AREAS

Dr. Daniel Hocking of NMFS' Greater Atlantic Regional Office staff calculated the following for Monkfish and Spiny Dogfish. For additional clarity, extra description was provided for the proceeding tables.

Monkfish:

Table 1: Average monthly coastwide monkfish landings and revenue for 2020 - 2022.

Table 2: Average monthly coastwide gillnet monkfish landings and revenue for 2020 - 2022. (a portion of Table 1 results)

Southern New England Monkfish:

Table 3: Average monthly coastwide gillnet monkfish landings and revenue for 2020 – 2022 into New York, Connecticut, Rhode Island, and Massachusetts ports below Cape Cod. (a portion of Table 2 results)

Table 4: Average monthly coastwide gillnet monkfish landings and revenue for 2020 – 2022 into New York, Connecticut, Rhode Island, and Massachusetts ports below Cape Cod **from within the southern New England proposed area.** (a portion of Table 3 results)

Table 5: Percent of average monthly coastwide gillnet monkfish landings and revenue for 2020 – 2022 into New York, Connecticut, Rhode Island, and Massachusetts ports below Cape Cod **from within the southern New England proposed area.** (i.e. what percent of regional monkfish gillnet landings might be affected by the southern New England proposed area in each month)

New Jersey Monkfish:

Table 6: Average monthly coastwide gillnet monkfish landings and revenue for 2020 – 2022 into New Jersey. (a portion of Table 2 results)

Table 7: Average monthly coastwide gillnet monkfish landings and revenue for 2020 – 2022 into New Jersey **from within the New Jersey proposed area.** (a portion of Table 6 results)

Table 8: Percent of average monthly coastwide gillnet monkfish landings and revenue for 2020 – 2022 into New Jersey **from within the New Jersey proposed area.** (i.e. what percent of regional monkfish gillnet landings might be affected by the New Jersey proposed area in each month)

Spiny Dogfish:

Table 9: Average monthly coastwide spiny dogfish landings and revenue for 2020 - 2022.

Table 10: Average monthly coastwide gillnet spiny dogfish landings and revenue for 2020 - 2022. (a portion of Table 9 results)

New Jersey Spiny Dogfish:

Table 11: Average monthly coastwide gillnet spiny dogfish landings and revenue for 2020 – 2022 into New Jersey. (a portion of Table 10 results)

Table 12: Average monthly coastwide gillnet spiny dogfish landings and revenue for 2020 – 2022 into New Jersey **from within the New Jersey proposed area.** (a portion of Table 11 results)

Table 13: Percent of average monthly coastwide gillnet spiny dogfish landings and revenue for 2020 – 2022 into New Jersey **from within the New Jersey proposed area.** (i.e. what percent of regional spiny dogfish gillnet landings might be affected by the New Jersey proposed area in each month)

Maryland/Virginia Spiny Dogfish:

Table 14: Average monthly coastwide gillnet spiny dogfish landings and revenue for 2020 – 2022 into MD/VA. (a portion of Table 10 results)

Table 15: Average monthly coastwide gillnet spiny dogfish landings and revenue for 2020 – 2022 into MD/VA **from within the Delmarva proposed areas.** (a portion of Table 14 results)

Table 16: Percent of average monthly coastwide gillnet spiny dogfish landings and revenue for 2020 – 2022 into MD/VA **from within the Delmarva proposed areas.** (i.e. what percent of regional spiny dogfish gillnet landings might be affected by the Delmarva proposed areas in each month)

Monkfish and Dogfish Landings Relative to Proposed Sturgeon Measure Areas

Daniel J. Hocking NOAA/NMFS/GARFO
March 13, 2024

Monkfish

Table 1: Average coastwide monkfish landings and revenue for 2020 - 2022.

Month	Landed (lb)	Revenue
1	1,014,049	$1,203,031
2	793,121	$947,059
3	949,034	$1,177,203
4	887,464	$1,123,107
5	957,670	$1,054,728
6	1,068,315	$1,147,811
7	369,888	$553,931
8	373,473	$604,586
9	345,923	$552,352
10	424,759	$651,785
11	503,278	$801,419
12	736,331	$1,075,319

Table 2: Average coastwide monkfish landings and revenue for 2020- 2022 using gillnets.

Month	Landed (lb)	Revenue
1	255,880	$324,111
2	122,132	$144,786
3	303,383	$341,481
4	298,150	$343,023
5	691,703	$721,880
6	817,386	$855,278
7	175,523	$296,010
8	164,233	$299,782
9	142,279	$254,251
10	100,519	$175,907
11	88,191	$167,155
12	181,805	$283,581

Area 1: Landings into New York, Connecticut, Rhode Island, and Massachusetts ports below Cape Cod including New Bedford, Hyannisport, Harwich Port, Hyannis, and Westport (gillnet)

Table 3: Average monthly monkfish landings and revenue for 2020 - 2022 using gillnets and landing in New York, Connecticut, Rhode Island, and Massachusetts ports below Cape Cod.

Month	Landed (lb)	Revenue
1	123,895	$138,614
2	93,913	$102,276
3	282,211	$313,503
4	271,607	$303,743
5	611,755	$625,878
6	682,765	$668,494
7	75,326	$69,745
8	40,082	$41,090
9	43,863	$40,193
10	39,899	$40,081
11	46,532	$65,531
12	51,421	$80,381

Table 4: Average monthly monkfish landings and revenue for 2020 - 2022 using gillnets within the southern New England proposed closure area.

Month	Landed (lb)	Revenue
1	38,644	$43,220
2	9,632	$10,683
3	24,570	$31,856
4	29,824	$36,526
5	407,034	$388,354
6	495,853	$456,386
7	35,750	$32,050
8	3,741	$4,645
9	311	$238
10	3,822	$3,215
11	13,566	$14,404
12	17,126	$21,316

Table 5: Percent monkfish landings and revenue for 2020 – 2022 using gillnets within the southern New England proposed closure area.

Month	Pct Landings	Pct Revenue
1	0.312	0.312
2	0.103	0.104
3	0.087	0.102
4	0.110	0.120
5	0.665	0.620
6	0.726	0.683
7	0.475	0.460
8	0.093	0.113
9	0.007	0.006
10	0.096	0.080
11	0.292	0.220
12	0.333	0.265

Table 6: Average monthly monkfish landings and revenue for 2020 -2022 using gillnets and landing in New Jersey.

Month	Landed (lb)	Revenue
1	121,215	$163,624
2	26,007	$37,464
3	9,127	$14,934
4	10,164	$12,875
5	71,180	$77,788
6	72,308	$73,295
7		
8		
9		
10		
11	3,243	$5,547
12	103,734	$147,834

Table 7: Average monthly monkfish landings and revenue for 2020 - 2022 using gillnets within the New Jersey proposed closure area.

Month	Landed (lb)	Revenue
1	61,552	$82,096
2	7,596	$11,360
3	2,830	$4,371
4	2,779	$3,884
5	28,464	$29,845
6	19,874	$18,286
7		
8		
9		
10		
11	3,011	$5,174
12	65,345	$94,141

Table 8: Percent monkfish landings and revenue for 2020 – 2022 using gillnets within the New Jersey proposed closure area.

Month	Pct Landings	Pct Revenue
1	0.508	0.502
2	0.292	0.303
3	0.310	0.293
4	0.273	0.302
5	0.400	0.384
6	0.275	0.249
7		
8		
9		
10		
11	0.928	0.933
12	0.630	0.637

Dogfish

Table 9: Average coastwide dogfish landings and revenue for 2020 -2022.

Month	Landed (lb)	Revenue
1	1,734,657	$327,834
2	585,588	$120,328
3	647,133	$132,980
4	431,998	$82,886
5	67,841	$17,486
6	290,442	$64,296
7	1,081,667	$242,851
8	1,212,626	$272,771
9	547,698	$121,773
10	445,545	$100,150
11	1,222,992	$235,228
12	1,822,421	$343,759

Table 10: Average coastwide dogfish landings and revenue for 2020- 2022 using gillnets.

Month	Landed (lb)	Revenue
1	1,710,056	$322,930
2	571,155	$114,539
3	619,550	$125,040
4	388,235	$75,403
5	39,235	$12,385
6	281,863	$62,313
7	1,065,809	$238,280
8	1,203,293	$270,235
9	536,731	$118,962
10	424,307	$95,954
11	1,139,388	$219,467
12	1,762,033	$329,268

Table 11: Average monthly dogfish landings and revenue for 2020 -2022 using gillnets and landing in New Jersey.

Month	Landed (lb)	Revenue
1		
2		
3	49,473	$8,335
4	201,551	$36,490
5	26,135	$8,784
6		
7		
8		
9		
10	67,333	$12,599
11	690,887	$133,521
12	262,946	$49,565

Table 12: Average monthly dogfish landings and revenue for 2020 -2022 using gillnets within the New Jersey proposed closure area.

Month	Landed (lb)	Revenue
1		
2		
3	26,650	$4,808
4	125,942	$22,838
5	12,847	$3,894
6		
7		
8		
9		
10	36,695	$6,829
11	380,811	$73,154
12	185,485	$34,833

Table 13: Percent dogfish landings and revenue for 2020 - 2022using gillnets within the NJ proposed closure area relative to total for NJ.

Month	Pct Landings	Pct Revenue
1		
2		
3	0.539	0.577
4	0.625	0.626
5	0.492	0.443
6		
7		
8		
9		
10	0.545	0.542
11	0.551	0.548
12	0.705	0.703

Table 14: Average monthly dogfish landings and revenue for 2020 - 2022 using gillnets and landing in Virginia and Maryland.

Month	Landed (lb)	Revenue
1	1,654,455	$314,812
2	552,835	$111,988
3	569,470	$116,605
4	180,651	$37,258
5		
6		
7		
8		
9		
10		
11	401,862	$74,298
12	1,477,894	$275,509

Table 15: Average monthly dogfish landings and revenue for 2020 - 2022 using gillnets within the Maryland-Virginia proposed closure area.

Month	Landed (lb)	Revenue
1	789,819	$145,581
2	169,309	$34,823
3	192,455	$38,838
4	59,095	$11,471
5		
6		
7		
8		
9		
10		
11	282,765	$52,595
12	850,317	$156,775

Table 16: Percent dogfish landings and revenue for 2020 – 2022 using gillnets within the MD-VA proposed closure area.

Month	Pct Landings	Pct Revenue
1	0.477	0.462
2	0.306	0.311
3	0.338	0.333
4	0.327	0.308
5		
6		
7		
8		
9		
10		
11	0.704	0.708
12	0.575	0.569

Atlantic States Marine Fisheries Commission

Atlantic Striped Bass Management Board

August 6, 2024
1:00 – 2:30 p.m.

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. Ware)*	1:00 p.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from May 2024	1:00 p.m.
3.	Public Comment	1:05 p.m.
4.	Consider Approval of Fishery Management Plan Review and State Compliance for the 2023 Fishing Year *(E. Franke)* **Action**	1:15 p.m.
5.	Consider Initial Recommendations from Work Group on Recreational Release Mortality *(C. Batsavage)* **Action**	1:30 p.m.
6.	Progress Update and Board Guidance on 2024 Stock Assessment Update • Timeline and Progress Overview *(K. Drew)* • Provide Guidance to the Technical Committee for Management Options to Consider if the Assessment Indicates Reduction is Needed for Rebuilding	2:10 p.m.
7.	Update on 2024 Winter Striped Bass Tagging Cruise *(S. VanDrunen)*	2:20 p.m.
8.	Review and Populate Advisory Panel Membership *(T. Berger)* **Action**	2:25 p.m.
9.	Other Business/Adjourn	2:30 p.m.

The meeting will be held at The Westin Crystal City (1800 Richmond Highway, Arlington, VA; 703.486.1111) and via webinar; click here for details.

MEETING OVERVIEW

Atlantic Striped Bass Management Board
August 6, 2024
1:00 – 2:30 p.m.

Chair: Megan Ware (ME) Assumed Chairmanship: 1/24	Technical Committee Chair: Tyler Grabowski (PA)	Law Enforcement Committee Rep: Sgt. Jeff Mercer (RI)
Vice Chair: Chris Batsavage (NC)	Advisory Panel Chair: Vacant	Previous Board Meeting: May 1, 2024
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 May 2024

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. Fishery Management Plan Review (1:15-1:30 p.m.) Action

Background

- State Compliance Reports were due on June 15, 2024.
- The Plan Review Team reviewed each state report and compiled the annual FMP Review **(Supplemental Materials)**.

Presentations

- Overview of the FMP Review Report by E. Franke.

Board action for consideration at this meeting

- Accept 2024 FMP Review Report for the 2023 Fishing Year and State Compliance Reports.

5. Work Group on Recreational Release Mortality (1:30-2:10 p.m.) Action

Background

- In May 2024, the Board established a Board Work Group (WG) to discuss recreational release mortality and approved four WG tasks addressing no-targeting closures, gear restrictions, stock assessment work, and public scoping.
- The WG met on June 24 and July 17, 2024 to develop recommendations on the stock assessment and public scoping tasks **(Supplemental Materials)**.

- The WG will continue its work and provide a full report on all WG tasks and any additional recommendations to the Board at the 2024 Annual Meeting.

Presentations

- Overview of Work Group progress and initial recommendations by C. Batsavage.

Board action for consideration at this meeting

- Consider Work Group recommendations on stock assessment tasks and public survey

6. Progress Update and Board Guidance on 2024 Stock Assessment Update (2:10-2:20 p.m.)

Background

- The 2024 stock assessment update for Atlantic striped bass is currently underway with results expected in October 2024.
- Addendum II to Amendment 7 includes a provision allowing the Board to adjust management measures via Board action (i.e., no addendum process) if the 2024 assessment indicates a reduction is needed to achieve stock rebuilding by 2029.
- ASMFC staff are requesting additional guidance on what types of recreational options to consider if a reduction is needed, and options for how any potential reduction should be allocated across sectors **(Briefing Materials)**.

Presentations

- Overview of 2024 Stock Assessment Progress and Timeline by K. Drew.

Board guidance for consideration at this meeting

- Provide guidance on management options to consider if the assessment indicates a reduction is needed for rebuilding

7. Update on 2024 Winter Striped Bass Tagging (2:20-2:25 p.m.)

Background

- The U.S. Fish and Wildlife Service coordinates the Atlantic Striped Bass Cooperative Tagging Program, including winter tagging of striped bass each year.

Presentations

- Update on 2024 winter striped bass tagging by S. VanDrunen.

8. Advisory Panel Membership (2:25-2:30 p.m.) Action

Background

- Tom Fote, a recreational angler from New Jersey, and Will Poston, a recreational angler from the District of Columbia have been nominated to the Atlantic Striped Bass Advisory Panel **(Briefing Materials)**.

Presentations

- Nominations by T. Berger

Board actions for consideration at this meeting

- Approve Advisory Panel nominations

9. Other Business/Adjourn (2:30 p.m.)

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 15th: Annual compliance reports due
- TC review size-bag-season analysis methods
- TC-SAS – Conduct 2024 stock assessment update

TC Members: Tyler Grabowski (PA, Chair), Michael Brown (ME), Gary Nelson (MA), Nicole Lengyel Costa (RI), Kurt Gottschall (CT), Caitlin Craig (NY), Brendan Harrison (NJ), Margaret Conroy (DE), Alexei Sharov (MD), Luke Lyon (DC), Ingrid Braun (PRFC), Joshua McGilly (VA), Charlton Godwin (NC), Jeremy McCargo (NC), Peter Schuhmann (UNCW), Tony Wood (NMFS), John Ellis (USFWS), Katie Drew (ASMFC)

SAS Members: Michael Celestino (NJ, Chair), Gary Nelson (MA), Alexei Sharov (MD), Brooke Lowman (VMRC), John Sweka (USFWS), Margaret Conroy (DE), Katie Drew (ASMFC)

Tagging Subcommittee (TSC) Members: Angela Giuliano (MD), Beth Versak (MD), Brendan Harrison (NJ), Chris Bonzek (VIMS), Gary Nelson (MA), Ian Park (DE), Jessica Best (NY), Josh Newhard (USFWS), Julien Martin (USGS), Katie Drew (ASMFC)

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

ATLANTIC STRIPED BASS MANAGEMENT BOARD

The Westing Crystal City
Arlington, Virginia
Hybrid Meeting

May 1, 2024

TABLE OF CONTENTS

INDEX OF MOTIONS

ATTENDANCE

Board Members

Megan Ware, ME, proxy for P. Keliher (AA)
Steve Train, ME (GA)
Rep. Allison Hepler, ME (LA)
Cheri Patterson, NH (AA)
Doug Grout, NH (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
Mike Armstrong, MA, proxy for D. McKiernan (AA)
Raymond Kane, MA (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)
Jason McNamee, RI (AA)
David Borden, RI (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
Justin Davis, CT (AA)
Bill Hyatt, CT (GA)
Martin Gary, NY (AA)
Emerson Hasbrouck, NY (GA)
Amy Karlnoski, NY, proxy for Assbly. Thiele (LA)
Joe Cimino, NJ (AA)
Jeff Kaelin, NJ (GA)
Adam Nowalsky, NJ, proxy for Sen. Gopal (LA)
Kris Kuhn, PA, proxy for T. Schaeffer (AA)
Loren Lustig, PA (GA)
John Clark, DE (AA)
Roy Miller, DE (GA)
Craig Pugh, DE, proxy for Rep. Carson (LA)
Michael Luisi, MD, proxy for L. Fegley (AA)
Robert Brown, MD, proxy for R. Dize (GA)
David Sikorski, MD, proxy for Del. Stein (LA)
Pat Geer, VA, proxy for J. Green (AA)
Chris Batsavage, NC, proxy for K. Rawls (AA)
Chad Thomas, NC, proxy for Rep. Wray (LA)
Ingrid Braun, PRFC
Daniel Ryan, DC, proxy for R. Cloyd
Max Appelman, NOAA
Rick Jacobson, US FWS

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

Ex-Officio Members

Sgt. Jeff Mercer, Law Enforcement Representative
Mike Celestino, Stk. Assmnt. Subcommittee Chair

Staff

Bob Beal
Toni Kerns
Tina Berger
Madeline Musante
Emilie Franke
Tracey Bauer
Caitlin Starks
James Boyle
Chelsea Tuohy
Katie Drew
Kristen Anstead
Jeff Kipp
Jainita Patel

Guests

Russ Babb, NJ DEP
Richard Balouskus, RI DMF
Mike Bednarski, VA DWR
John Bello, Virginia Saltwater Sportfishing Assn.
Joseph Beneventine
Alan Bianchi, DC DMF
Tom Bleifuss, USCG
Jason Boucher, NOAA
Michael Bowen, Cornell Univ.
Jeffrey Brust, NJ DFW
Michael Celestino, NJ DEP
Haley Clinton, NC DEQ
Richard Cody, NOAA
Allison Colden, CBF
Margaret Conroy, DE DNREC
Heather Corbett, NJ DEP
Caitlin Craig, NYS DEC
Scott Curatolo-Wagemann, Cornell Cooperative Extension of Suffolk County
Sarah Cvach, MD DNR
Micah Dean, MA DMF
Greg DiDomenico
Olivia Dinkelacker
Russel Dize
Douglas Dockery, Cape Cod Salties
Roman Dudus
Paul Eidman, Reel Therapy Fishing Charters
Julie Evans, East Hampton Town Fisheries Advisory Cmte.

Guests (Continued)

Sheila Eyler, US FWS
Peter Fallon, Maine Assn. of Charterboat Captains
Lynn Fegley, MD (AA)
Corrin Flora, MA DMR
Tom Fote, JCAA
Anthony Friedrich, ASGA
Tom Fuda
Ben Gahagan, MA DMF
Matthew Gates, CT DEEP
Lewis Gillingham, VMRC
Angela Giuliano, MD DNR
Brendan Harrison, NJ DEP
Jaclyn Higgins, TRCP
Harry Hornick, MD DNR
Jesse Hornstein, NYS DEC
Bob Humphrey
Stephen Jackson, US FWS
James Jewkes
Raymond Kane
Kurt Karwacky
Rachel Kelmartin, George Mason University
Gregg Kenney, NYS DEC
Andrew Konchek
Robert LaCava, MD DNR
Sarah Lalo, NOAA
Laura Lee, US FWS
Brooke Lowman, VMRC
Chip Lynch, NOAA
Ja MacFarlan, RI DEM
Shanna Madsen, VMRC
John Maniscalco, NYS DEC
Todd Mathes, NC DMF
Joshua McGilly, VMRC
Daniel McKiernan, MA (AA)
Nichola Meserve, MA DMF
Steve Meyers
Chris Moore, Chesapeake Bay Foundation
Jeff Moore, NC DMF
Bob Munro
Allison Murphy, NOAA
Gary Nelson, MA DMF
T. Reid Nelson, George Mason University
Thomas Newman, North Carolina Fisheries Assn.
George Noleff, WFXR-TV
Tyler Oneill
Patrick Paquette, MSBA
Alexis Park, MD DNR
Gregory Pavlov
Michael Pirri
Will Poston, ASGA
Evan Priovolos
Stephanie Richards, MD DNR
Harry Rickabaugh, MD DNR
Bailey Robertory, Chesapeake Research Consortium
Courtney Roberts
Steven Robichaud
Sefatia Romeo Theken, MA DFG
Cody Rubner, ASGA
Mike Ruccio, NOAA
Daniel Ryan, DOEE
Zachary Schuller, NYS DEC
Chris Scott, NYS DEC
Tara Scott, NOAA
Ross Self, SC DNR
Alexei Sharov, MD DNR
Marty Simounet, MCBA
Ethan Simpson, VMRC
Ross Squire, NY CRF
John Sweka, US FWS
Rustin Taylor, Maine Elver Fisherman's Assn.
Kristen Thiebault, MA DMF
Chad Thomas, NC Marine & Estuary Foundation
Taylor Vavra, Stripers Forever
Beth Versak, MD DNR
Ralph Vigmostad, NY CRF
Tim Wheeler, Bay Journal
Peter Whelan
Ritchie White
Kyle White
Patrick Whittle
Al Williams
Charles Witek
Steven Witthuhn, NY MRAC
Gregory Wojcik, CT DEEP
Michael Woods, Backcountry Hunters & Anglers
Chris Wright, NOAA
Daniel Zapf, ND DEQ
Jordan Zimmerman, DE DNREC
Renee Zobel, NH FGD

The Atlantic Striped Bass Management Board of the Atlantic States Marine Fisheries Commission convened in the Jefferson Ballroom of the Westin Crystal City Hotel, Arlington, Virginia, via hybrid meeting, in-person and webinar; Wednesday, May 1, 2024, and was called to order at 1:15 p.m. by Chair Megan Ware.

CALL TO ORDER

CHAIR MEGAN WARE: Good afternoon, everyone. We're going to go ahead and call the Striped Bass Board to order this afternoon.

APPROVAL OF AGENDA

CHAIR WARE: We're going to start with Approval of the Agenda. Are there any additions or modifications to the agenda? Seeing none; I will just note. I think John Clark had one item under Other Business that we'll get to.

APPROVAL OF PROCEEDINGS

CHAIR WARE: Moving on to our next item, it's Approval of Proceedings from March 2024. Are there any edits to the proceedings from March of 2024? Seeing none; the proceedings will be approved by consent.

PUBLIC COMMENT

CHAIR WARE: We'll now move into Public Comment. This is for comment on items that are not on the agenda.

I'll look for raised hands both in the room and on the webinar, and we'll see how many folks would like to give public comment. I am not seeing any hands online or in the room, so just doublechecking that. Seeing none.

CONSIDER REVISED ADDENDUM II STATE IMPLEMENTATION PLANS

CHAIR WARE: We will move on to our agenda item, which is to Consider the Revised Addendum II State Implementation Plans, and we will be hopefully taking action on this today.

Just a reminder to the Board of where we stand on this agenda item. States were required to implement the Addendum II measures by today, which is May 1st. We had a March webinar Board meeting, where the Board approved the Addendum II state implementation plans with three exceptions, which were Pennsylvania's timeline for implementing its new spring slot limit, and Maryland and Potomac River Fisheries Commission timeline for paying back any commercial quota overages from 2024.

To address those issues, the three jurisdictions have submitted revised state implementation plans, and those were included in your meeting materials today. We're going to be considering final action to approve those three revised implementation plans.

OVERVIEW OF PENNSYLVANIA, MARYLAND, AND POTOMAC RIVER FISHERIES COMMISSION PLAN REVISIONS

CHAIR WARE: I'm just going to go to each of the three jurisdictions to provide a brief recap of what has changed in their implementation plan since March, and then we'll open it up for any Board discussion. I will start with Ingrid; would you like to start?

MS. INGRID BRAUN: Thank you, Madam Chair. PRFC submitted a plan to revise the commercial overage payback that we believe would satisfy the FMP requirement to pay back in the next fishing year. In our plan we detailed the specifics of our tag distribution and our timing, so that at our Commission's September and December meetings they would consider the projections for the 2024 fishing year, and take action in either delaying issuing tags for the next year or reducing the number of tags, based on those projections. I would be happy to take any questions based on what I submitted.

CHAIR WARE: I'm going to go through the three states, and then we'll open up for questions after those three states. Next, I'll go to Mike Luisi from Maryland.

MR. MICHAEL LUISI: Our revised plan differs slightly from what Potomac River Fisheries has put forth. If it's okay with you, I'll just step through a few of the details. Just to bring everybody up to speed, all of our recreational measures are in effect as of today. They go into effect today. What I would like to focus on is what we were able to come up with for a revised plan, based on the feedback that we got at the board meeting in March.

We got a lot of suggestions in March, things to think about, and I spent time with my staff working through the different suggestions that were made, and we concluded that there were a couple of the suggestions that we just can't do. I wanted to spend a second highlighting that, to let you know that we did discuss it.

But things like reducing the 2024 quota post sending it out to our fishermen, is something that we just can't do. We can't pull back the quota that was already distributed in 2024. Just for transparency, we have more quota out there this year than Addendum II requires. But we're going to allow that fishery to operate this year, and part of our revised plan and the details that I'm going to go through, help address how we would handle potential overages.

That is something that we could not do. Another thing that we can't do is hold quota, hold tags, and do multiple rounds of distributing the permits to our ITQ holders. I detailed it in the revised plan, so I am not going to spend the time addressing all of the reasons why. But it comes down to staff resources and the time that it would require, and the complexity that would occur as a result of us going through the motions of multiple mailings, however you want to think about it.

Getting the quota out in different stages throughout the course of the year is just something that we can't do. But what we can do, is we can focus on more timely and accurate understanding of the catch throughout the year. I think you'll see that as the highlight in our revised plan. What happens in our state is that for each fish that is caught, the fish have to go through what we refer to as check stations, and there are 33 of those check stations all throughout the state of Maryland.

The check stations act as kind of a branch or an arm of the Natural Resources Department in verifying what has been harvested, and then reporting that harvest to us on a weekly basis, so much timelier than the annual reporting that is required under the ITQ. What our plan is, in moving forward, is that we are going to stay on top of our check station reporting this year, more so than we have in the past. We are going to pay particular attention to the catch in 2024, around the December 1st time period this year. When we get to December, we are going to have a pretty good handle on what has been caught to date. Then we are going to use a projection of the month of December to take an educated guess as to how many fish will be caught during that month. We're going to add it to the catch that we already know occurred. That number that we generate from that is what we are going to use as a projected 2024 harvest.

If the projected 2024 harvest is greater than Addendum II's 2024 quota, we will reduce the amount of the Addendum II 2025 quota by that overage amount, so if fishermen are catching more than what they should have caught under Addendum II right now, that will be deducted from the future Addendum II quota.

As the year progresses into 2025, we'll have a better handle on actual catch, and we'll consider all of what we've distributed, what has been harvested, and make any slight adjustments that still might be necessary, but that will not be able to be adjusted until 2026. While we realize that that was the whole reason why we are here, is because our original plan was asking to be allowed to take the full brunt of the reduction in 2026.

We might be dealing with very small numbers of just making sure that our numbers are all aligned for our compliance report. That is our plan moving forward. We appreciate the Board's interest in assuring that we are following along with the FMP as it states. Like Ingrid, I will be happy to take any questions on the

details of that plan following Pennsylvania's presentation.

CHAIR WARE: I'll now go to Kris Kuhn from Pennsylvania.

MR. KRIS KUHN: Appreciate the opportunity to go through Pennsylvania's revisions to the implementation plan that was presented back in March. We submitted a revised implementation plan for consideration of the Board. Without going through all the details, the sticking point with the previous plan was the implementation timeline, where I was proposing to implement following the May 1st time period. We have since been able to comply with that.

A notice of the change has been posted in the Pennsylvania Bulletin on April 20th, I believe, and signs were physically posted in the vicinity of the area affected by the rule change yesterday and today, and that is the last piece of Pennsylvania's regulations to become compliant. As of today, we are compliant with the change, and the proposed slot limit that was enacted was a change to the spring slot fishery from the 21 to 24 inch 2-fish bag limit to the 22 to 26 inch 1-fish bag limit, which has an estimated reduction of 19.32 percent.

CONSIDER APPROVAL OF STATE IMPLEMENTATION PLANS

CHAIR WARE: We're now going to open it up for any Board questions and discussions on the three revised implementation plans, and after that we'll be looking for a motion. Any questions? Emerson Hasbrouck.

MR. EMERSON C. HASBROUCK: Should we direct our questions for you? How do you want to proceed here?

CHAIR WARE: Sure, I think you can ask the questions and I'll just look to the specific state to respond.

MR. HASBROUCK: My question for Maryland is, in the past have you been able to track how closely the data from the 33 check stations, how close they are to what the final commercial landings are for the state, after everything is resolved?

MR. LUISI: Yes, thanks for the question, Emerson. Yes, we can. There are sometimes some discrepancies between what is reported by the fishermen when they send in their annual report, or their harvest report on their permit and what the check stations have reported. But those discrepancies are handled outside. They are dealt with and then we move on.

But the discrepancies, it's not a rampant practice. They occur, like anything when you're dealing with 1000 fishermen, 33 check stations, an open season that probably runs close to 250 days a year. We've got some comparisons, line by line comparisons that we have, but I would not say they are significant in any way.

CHAIR WARE: Do you have a follow up, Emerson? Yes.

MR. HASBROUCK: Thank you, Mike, for that explanation. I guess what I was really asking is, over the course of some number of years, has the data from those 33 check stations represented about 90 percent, 95 percent, 99 percent, 100 percent of what the final commercial landings are for the state? Is that clearer?

MR. LUISI: Yes, they represent 100 percent.

CHAIR WARE: Next, I have David Borden.

MR. DAVID V. BORDEN: Emerson just asked the first question, but Mike, is the information from the check stations going to be public information? Is it going to be on like a website, so the public could see what the catch is to date, like a running tally?

MR. LUISI: We don't currently have a system like that set up. But I mean we could consider putting something online similar to how their quotas are tracked, where the public could watch the quota as it is caught. It's public information. The summary of the collection of all 33 reports goes into a daily catch,

and that could be posted. We would have to consider.

MR. BORDEN: I just offer the opinion. I think it would be useful if you could do that.

CHAIR WARE: Any other questions? At this point we'll also take any comments folks have. Seeing none.

CHAIR WARE: I would be looking for a motion to approve the implementation plans. Mike Armstrong.

DR. MIKE ARMSTRONG: Since I made the motion to cause this action, I think it's appropriate, in the spirit of collegiality and interstate cooperation, as represented by this august body. I make a **motion to approve the revised Addendum II implementation plans for Pennsylvania and the Potomac River Fisheries Commission and Maryland**.

CHAIR WARE: Thank you, Mike, and I saw a lot of seconds. Mike Luisi, I think you had your hand up first. All right, so we have a motion on the board that is made by Mike Armstrong, seconded by Mike Luisi. Is there any discussion on the motion? Seeing no discussion, **is there any opposition to this motion? Seeing none; the motion passes by unanimous consent**.

PRESENTATION OF MASSACHUSETTS DIVISION OF MARINE FISHERIES RELEASE MORTALITY STUDY

CHAIR WARE: All right, so we're going to move on to our next agenda item, which is a presentation from Mike Armstrong on Fisheries Release Mortality study that Mass DMF is doing. As Mike walks up here, I think our plan for the rest of our agenda today is; Mike will give this presentation, we'll have opportunity for questions for Mike. But I would like to hold discussion on kind of the general topic of discard mortality or release mortality until after our next agenda item, which is talking about the work group.

DR. ARMSTRONG: I'm going to give a very brief, I'm just going to whip through in the interest of time. I always say that, but give me the cut when I go too long. Some of the work we've been doing on catch and release mortality, I apologize, these slides are ugly, but they were very pretty, but I couldn't get them to e-mail to Emilie, so I had to make them ugly and cut out everything.

What we've been doing is really three different phases that I think you want to hear about. Phase 1 was looking at the efficacy of circle hooks, and this followed us. We put in a mandatory rule, but there wasn't a ton of empirical evidence that the circle hooks work. There was a couple of unpublished studies.

We undertook that, and I'll tell you about that. Then Phase 2, we took data from there, created a model, and put in a citizen science collection program that is just generating crazy data that is really good. Then I'll tell you about a survey we're going to do to try and ground truth some of these things.

I would be remiss, Micah Dean, Bill Hoffman, Ben Gahagan and others. You know I just fund the things and tell them to do it, and they just did unbelievable work in getting this all done. Anyway, the efficacy of circle hooks, so what is the conservation benefit? There were two studies, Caruso and Lukacovic that looked at this.

They were never published, they are deep in the grey literature, and they used cages. They found significant benefits to circle hooks, and I think that motivated this Board to move forward with that. There are lots of studies on other species, primarily billfishes that it works pretty well, and there is a huge amount of literature on it.

But there is also some where they didn't work that well, and it was primarily fish that don't attack the bait like a billfish. What was the objective to circle hooks, reduce release mortality? What would the factors be that caused this mortality that is being reduced by circle hooks? We undertook this study. We actually did one year of it.

We chose a circle hook, and we went to our bait and tackle shops and said, what is the most popular circle

hook that you use, because we wanted to simulate that. Then we said, what's the most popular bait. We wound up modeling what we did after the most popular fishing methods in Massachusetts, which is live mackerel and certain circle hooks. But at the end of year one, the results were perplexing, so I immediately said, let's do it again with more hooks, different hooks. We wound up using three different circle hooks versus one J-hook, and the results were interesting. Anyway, we recorded a bunch of data, typical length.

But things like the hook location, the fight time, the handling time, and the release condition, a whole bunch of things we recorded. One of the more important being the condition score. One being no visible injury except maybe a little hole in the lip and it swims off rapidly and strongly. Two and three are somewhere between uninjured, and four is near death or almost dead, incapable of swimming away. It's subjective, but it turns out it worked really well.

We attached accelerometer tags, so they are the standard pinging tags. We saw them on their back and deployed a whole bunch of receivers. Now the cool thing about these tags is, you know the same thing that is in your phone, so when you tip it, it changes the screen. It's an accelerometer, except this records tail beats, so you can actually tell if a fish is swimming, more or less, which we thought was a huge advantage over the way things have been done, throw them in a cage, and open it up three days later and see who is alive.

We released about 350 fish with tags on them over two years, and we put out an array. This is Salem Sound, the Cat Cove Lab that I oversee is in this picture. But the outer ones form a gate, so it is very difficult for a bass to leave that area without us seeing it. I think everyone is familiar, but these things are pinging. They are pinging an identifier, and then they are pinging all the accelerometer data.

They've got to be picked up, a very low probability of not being picked up in this array. The bass, once they are in Massachusetts they don't move that much out of where they set up for a while. That was the primary array and that is the summer foraging area for our bass. Then of course, many of you have some in your state, and we are part of an east coast consortium, if you will, where we all share data that we pick up on our receivers, and it works tremendously, so a lot of our bass.

If for some reason they escaped our detections, they would not escape probably others that other states have put out. We did it, we put them out and what happened. Anyway, it turns out dead fish move, and they move quite a bit. We could not tell live from dead for almost two weeks, and we theorized that the dead body, if you will, is being pushed around by tide, currents and everything else.

You can see on the bottom graph there is quite a bit of activity from the accelerometer. We wound up auditing the data and not using anything before two weeks. That was an interesting finding. We think eventually that the local fauna takes care of it, and once the tag falls off the fish, because it is mostly eaten, then it becomes stationary, then we can say it is truly dead.

Most fish if they die, it became very clear. There were some that were ambiguous. But the results of it all, all these parameters we put in a big model, and this is some of the findings. Our condition factor made sense after we looked at the data. If it swam off and it was doing well and it was essentially uninjured, there was a 1 percent chance of it dying, essentially no chance of it dying. If it was a little bit hurt, 9 percent, and if it was fairly hurt but it swam off, maybe weakly, 44 percent died. Then of course if it looked dead, it was dead. That condition score became very valuable. It was the most significant factor in the model. In fact, you could predict just using condition.

This is it here, on the left. You see a J-hook is furthest on the left of the left graph. That is percent mortality. What you see is there is no statistical difference in the death rate for the three circle hooks we used. The other interesting part is the 9 percent we use in the assessment looks pretty damn good.

That was a good finding. The other piece, or the right graph is, and we could look at this in lots of different

ways. Here is unhooking time, so the longer it takes to unhook the higher mortality goes. That is kind of a no-brainier. But it is exacerbated when the fish are more injured, particularly if a fish is injured in the gill there is a very high probability it is going to die. The longer you keep it out of the water that probability goes up.

That was the finding of our study. Why was there no circle hook effect? We have a paper coming out, and this is the part where we wave our arms a little in the discussion. Other papers have seen it. Our goal was to use the most popular hooks that were being used, and live bait. It could very well be that those hooks aren't the best. They are just popular, and they don't work well. We're not sure.

The Caruso paper, you can see on the bottom, had a very small gap. It could be that these popular ones, they are actually octopus circle, have a larger gap. They're just not working as well as the ones that Caruso used. We're not prepared to sit here and say, circle hooks don't work. I think they do work under certain circumstances.

You have to figure, we were all, everyone who was fishing, we were paying attention. We are experienced anglers. If you put your rod in a rod holder and drink beer and let 200 yards of line run out, circle hooks probably work better. We did not test that scenario, and we couldn't. We could only test a very limited number of scenarios.

Our conclusion is, they didn't work. But there is probably a hook that does and it's probably beneficial under different circumstances. I don't think we should be in a rush to take that rule back, because they work so well for so many things. But, it's real data and under these circumstances they didn't work right.

This might be one, there should be some follow up studies looking at that gap and working with manufacturers, to maybe do a hook that works better. But that will take some work. Let me move on. All that data allowed us to build this model with a predictability of, is it going to die? But we didn't have the capability of looking at lures, all the treble hooks, single hooks, combination and all of that.

We came up with the idea of using citizen science, having citizens collect, as simple as we can, the parameters that we looked at. We're calling the comparison release injury or mortality from various terminal tackle using citizen science from this predictive mortality model. We put out a call for our anglers to help us out, and they responded pretty well. We got 689 signed up, but a quarter of those actually submitted data. But I will show you, this is data on 3,000 fish, so it's a lot. As much as my staff would love to spend the rest of their career striped bass fishing, this is probably a more effective way to do it.

I have actually approached a lot of your states to try and get more data from other states. I'll show you some of the reasons we would like to see other types of gear, particularly other water temperatures. But you can see it's mostly from Massachusetts, and they are mostly experienced anglers, and they fished a lot. That can buy us results too, so we have to watch out for that.

It's all reported through a website, and the data is updated constantly. I should have put the website in so you guys, you can go right now, and you can watch all the graphs, and they change daily when the season gets going. About 882 trips we sampled and 3,500 fish reported on condition, fight time, et cetera.

What did we find so far? Let me stop there. We did it the first year. We did some of our own sampling, and we had all those anglers. But we decided we needed a lot more data, so we've approached some of you states to help us out, and we'll be doing it again. We hope to have, you know if we got 3,000 fish we're hoping maybe 10,000 fish.

That will be a lot of data and that will be very telling, and I'll show you some of the stuff that we're getting out of it now. Anyway, the bait or lure choices, as reported, and this isn't stratified or anything. This is just raw; this is what they reported. You can see mid-

water lures were the most popular, bait was also popular.

But those are the big categories, surface, mid-water bottom, fly and bait. Most of the bait up our way was mackerel, and it was live mackerel. Here is some of the data. I'm just going to whip through it, the size varies according to gear. That is kind of a no brainer. You fly guys catch little dinky fish, and a lot of them.

Larger lures catch larger fish, imagine that. The graphs on the left are pretty cool. Bigger fish take longer time to handle, and that is significant, because you know, big fish don't do well out of the water and being handled roughly. But the data on the right are the, sorry this is fight-time, and it's done by how well it swam off, so it swam off either strong, which is the white part of the bar, weak, or it didn't swim off.

You can see how they were all ranked, and the bottom was handling time. As handling time or fight time goes up, you have more fish that are incapacitated in some way, not surprising, but we can look at it more. The one on the left is by gear type, and where it was hooked, so white was in the mouth. Then you can see body is the pinkish one, so surface lures catch the body or the face or something, and it's generally two treble hooks.

They are the worst, about 20 percent of all fish are foul hooked, if you will, on surface lures, and I'll show you the data that shows that it is mostly double treble hooks. Then you look on the bottom at bait, and you see the other problem, and that is the darker red is esophagus. It is survivable, but it is injured at that point. These graphs are all automatically made on the website, which is pretty cool. Here we are looking at the hook combination, so a single, single hook, a single treble, two single hooks, two treble hooks, et cetera, et cetera. You can see that the treble and treble sticks out, way out. Black is in the gill, and what we found is, if a fish is caught in the gill and it's bleeding, it is almost surely going to die.

If you had to point to a combination, it would be a surface lure with two treble hooks is the most problematic, in terms of injuring fish that you are trying to put back in the water. The one on the right, and this is just the way we can parse things out. This is how much blood there is, so the treble-treble caused the most bleeding. You know that goes for the left graph too.

Then there is ancillary data we're collecting for temperature, air and water we ask people to take. You can see one of the problems, you look at our water temperature, and it barely touches 70 at the peak of the summer. That is why we are looking to you folks to help us out with some more data. Because if you look at the graph on the right, water temperature is on the Y axis, and did it swim off strongly/weakly or it didn't swim off at all.

You can see that it's almost a threshold effect, we think, that once you get over about 75, that is when you start seeing the injury or the ability to swim off really goes downhill. We don't have a ton of data. You can see the sample size next to them. We simply didn't have water greater than 75 very much, so it will be really interesting to get some from your states.

But that is interesting that there seems to be a threshold effect. Overall, if we look at the mortality rate, keeping in mind we used nine. Forget the stuff on the left. The ones on the right, let's look at by lure type, so fly is, boy, I can't even read it. Fly is 3 percent and bait is almost 7 percent.

There is considerable reduction by eliminating certain things like bait, but you know I am just giving our next conversation. I think there is a lot of data here that will be useful for that conversation. Then by hook type, you can see the treble-treble is above 8 percent, far to the right. That is the highest mortality right there.

Again, we have data to look at in a million different ways. When we conclude, it's an efficient and effective method of collecting these data, and we incentivized it with supplying a lot of sampling kits with stop watches and measuring tapes, and we do a raffle, I think every week. You know, we spent probably $25,000.00 on that.

We're expanding our outreach to get to other states. Overall, lures have a much lower mortality rate than bait. That was our conclusion thus far. Jut very briefly, so what good are those data? They are not that good unless you know how much people are using each gear. Then the stock assessment people can then parse out mortality like that.

We're about to start a survey through a company that is very experienced at trying to get these kinds of data. It's expensive, we'll probably spend $80,000.00 to get this survey done. But it will absolutely be useable by this Board, should we go down the route to try to do something about the terminal tackle and things like that. That's it.

CHAIR WARE: Thank you very much, Mike. We're going to go out to the Board. There was a ton of information in that presentation. Focus on questions, and then we're going to save kind of the broader release mortality discussion for our next agenda item. Any questions for Mike? Yes, we'll start with Dennis Abbott.

MR. DENNIS ABBOTT: Mike, I noticed on the last page it says, randomly select X number of e-mail addresses from license frame. Does this mean you're going to restrict this to Massachusetts residents? I've already had a reply from a former Commissioner interested in participating from New Hampshire.

DR. ARMSTRONG: Yes, I mean the citizen science will be for everyone. Our intent is that this will be a coastwide survey, so that it will be useable by this Board should we decide to parse things out. I mean the end result is, we can say 25 percent were caught by bait, you know et cetera, et cetera. Then we can assign individual mortality rates. It's a big lift and I hope it all works. But we're going to do it.

CHAIR WARE: I have Steve Train and then Mike Luisi.

MR. STEPHEN TRAIN: Mike, first of all, thank you for the presentation, and thank you for telling me that the way I go fishing, by just letting a couple hundred yards of line go and sitting back and drinking a beer would work with those hooks. That's important to me.

DR. ARMSTRONG: Are you drinking beer, even better.

MR. TRAIN: Secondly, I misunderstood something at the bottom, I think. At the end you said that lures with treble hooks, two treble hooks, were the most deadly or dangerous risk of mortality. But the final thing you said was bait was more likely to cause mortality than lures. Is it just that individual lure that was the problem, and the rest are okay? I'm not sure.

DR. ARMSTRONG: Well, yes. It is in a comparison of lures versus bait, bait has a higher probability of causing mortality. But then if you just look at lures, it is the surface lures with two treble hooks that are much worse. But it's comparable to bait individually, if that makes sense. Again, we're still trying to digest all this stuff. But there is a lot of data here.

CHAIR WARE: Mike Luisi and then Roy Miller.

MR. LUISI: Yes, Mike, this is a lot of really good information, and one thing that, as you went through the slides, it showed a graph of handling time, and as handling time increases, mortality increases with it. Did you do any type of comparison between being able to release that hook, whether it's a J-hook or a circle hook?

We get a lot of folks complaining that circle hooks are just harder to get out of the fish, because of the way that they are designed, they come out more difficultly. I don't know if you took a look at that. But it might be interesting to see whether or not using the circle hooks when bait is being used actually does help, just the mechanism itself is increasing that handling time. Something to think about.

DR. ARMSTRONG: We have, the data is in there. We haven't analyzed any of the citizen science stuff, because we know we're going to continue. There is no analysis, but the data is buried in there. We could easily do that.

MR. LUISI: Just a quick follow up, Madam Chair. Another thing, Mike, you mentioned at the end that you were trying to get to some information regarding

the terminal gear that is being used. At the risk of saying, I believe that we in Maryland did a slight two or three question add-ons to our APAIS program for a number of years, to try to get to that, to try to figure out what type of tackle anglers were using. It may be another course for you, instead of spending the money to do a full-blown survey, you might be able to get it right through the program that you are already working through.

DR. ARMSTRONG: That's curious, because we tried to do that and MRIP yelled at us.

MR. LUISI: Yes, you can't change the form. We had a separate form, and after the conclusion of the interview we would ask if they would be willing to spend another minute answering some direct questions from the state of Maryland. We were able to accomplish that with the same staff that we already had in the field.

DR. ARMSTRONG: And MRIP knew that?

MR. LUISI: Yes, they knew it.

DR. ARMSTRONG: How about that.

MR. LUISI: If they didn't know it, I'm sure I'll be caught in the hallway in a few minutes.

CHAIR WARE: Roy Miller and then Emerson Hasbrouck.

MR. ROY W. MILLER: Thanks for this very interesting study report, Mike. I may have missed this, but the hooks that were used in the Phase 2 study, were all of the bait hooks circle hooks, or were they any type of hook?

DR. ARMSTRONG: For the citizen science part?

MR. MILLER: Yes.

DR. ARMSTRONG: It is whatever people are using they report on.

MR. MILLER: All right, so there was no requirement to use circle hooks for that bait study.

DR. ARMSTRONG: No, we do request them to take a picture and measure the hook, if they can, and some people do, so we have information on the hook type.

MR. MILLER: Okay, that is what I wanted to know, thanks.

CHAIR WARE: Emerson Hasbrouck.

MR. HASBROUCK: Mike, thank you for that presentation. Really great study. Jut a comment. I did a discard mortality study about ten years ago on summer flounder in the trawl fishery. I find some very similar results here with your study with striped bass. You said that condition and time out of the water was significant factors, and then also that longer fight time and handle time resulted in worse condition.

That correlates really well with what I found with summer flounder discard mortality in the trawl survey. The worst, because we had a condition index as well. The worse the condition was of the fish, the less likely it was to survive. Then also, with time out of the water. You know we did different times on deck.

You know the longer you left that fish on deck to be exposed to the sun and try to breathe air, the worse the survival was as well. Then also tow time, we did variable tow times, which kind of correlates to your longer fight time. Just wanted to highlight the similar results between my study with summer flounder discard mortality and what you're seeing with striped bass. But thanks for the great study, Mike.

DR. ARMSTRONG: Yes, none of this is like groundbreaking like, oh my God, except for the part that circle hooks didn't seem to work that well under those conditions. But we need empirical data, we need real data if we're going to move ahead with specifying gear types and things like that. That's good.

CHAIR WARE: Next, I have Jason McNamee.

DR. JASON McNAMEE: Mike, really nice work, which isn't surprising. You had a pretty good team on

there, so nice work. Appreciate you showing us as well. I was wondering, you know fantastic descriptive statistics for the citizen science stuff. Is the plan to kind of let it roll for another year and then begin to kind of look at it statistically?

You know it looked like there were a couple of cases where there are differences, but you know you want to verify that statistically. Is the plan to do that? Then just to add on, do you intend on publishing any of that? Because I can see this information being really valuable to a stock assessment.

DR. ARMSTRONG: Yes, our intent is one, to work really closely with this Board and the Technical Committee, and get stuff to you all if you need it. But no, we want to finish another year and then start doing the analyses, pick whatever parameters we think, and do some statistics on it, and publish it.

But that will take a while. But we would like the data to be available before then. I mean that is the next conversation. The citizen science, it will probably be three years before it comes out published, you know just the way it works. But we can get the data to you guys before then.

CHAIR WARE: Next, I have John Clark and then Marty Gary.

MR. JOHN CLARK: That was an amazing presentation, Mike, really interesting stuff. Just wanted to clarify a couple things. When you said the current circle hooks are not the same as the ones that were used 20 years ago, are these ones that qualify as non-offset circle hooks, but they are just different gapped than the old one?

DR. ARMSTRONG: Exactly, yes. They are non-offset and they are popular. I believe these are all called octopus. I don't use them. I used the one that worked last study, they are more robust. They are kind of a commercial hook. But I think yes, the only difference was the gap was bigger.

MR. CLARK: Then with the bait, was it live bait and chunk bait combined, or was there a difference between live bait and non-live bait?

DR. ARMSTRONG: There was, we did mostly live, you know if we couldn't get it, we would use chunk. But chunk had higher mortality, and you know that is just because they could swallow a chunk better than a whole mackerel. But to go back to, there is no standard for circle hooks, so every manufacturer makes them different. The ultimate goal is to identify what is the factor, and maybe you've got to close the gap up. You might lose some fish that way, but you're almost guaranteed to catch it in the lip if it is constructed right, we think.

MR. CLARK: Our definition that we put out there about the non-offset circle hook is not prescriptive enough to get to the type of hook we need.

DR. ARMSTRONG: That is what the paper will say. I do believe you have to qualify it with, under the circumstances, we tested it and that is all we could do. They didn't work.

CHAIR WARE: It's Marty Gary and then Dave Sikorski online.

MR. MARTIN GARY: Thanks, Mike and all the folks at Mass DMF for a great study, great work. One of the studies you cited was Lukacovic, Maryland. I kept thinking back to that study, which I participated in, and some of the formidable environmental conditions with high water temperature and low salinity, related to handling time. I was just thinking, did you and your colleagues have any preliminary thoughts on in-water release related to mitigating the handling time? Maybe it's too preliminary for that kind of discussion.

DR. ARMSTRONG: I think you're asking, like don't take the fish out of the water. Clearly, that would be better if the handling time out of the water is zero. The other thing is, we haven't even looked, but the data there is air temperature. I'm sure that is a co-factor that we could look at too.

CHAIR WARE: Dave Sikorski.

MR. DAVID SIKORSKI: I was going to ask a similar question to what Marty asked, but I'll make it more specific. Did you use any sort of commonly used

grippers or things that hold fish out of the water like a Boga grip or a lip grip type of thing? If not, is there a way we can incorporate that type of question into something as we broaden this effort up and down the coast, because I would like to definitely be involved in expanding the word in Maryland. I was happy to see that we ticked up a little bit above some of those other states. I know we have some folks that are really interested in this topic.

I know there is also somebody in the meeting today in the room who is leading some work similar here in Maryland that CCA is involved in too, Dr. Nelson. Anyway, very interested, I'm wondering if the handling piece and the commonly used beer component is considered or should be considered.

DR. ARMSTRONG: Now that you mention it, I think it should be considered. I don't think that was recorded. My staff is probably listening, going out of their minds right now. But I do not believe we recorded that, but it sounds like something we should add in.

CHAIR WARE: Pat Geer is the last hand I saw, and then we're going to move on to our next agenda item.

MR. PAT GEER: Mike, this is really great work. I just want to talk about the telemetry arrays and how important that they are. I just got a text from one of my staff. Three of your fish showed up our way at Chesapeake Bay Bridge Tummel, so three of your fish made it all the way down to Virginia. They made it through the gauntlet.

In addition to that, fish that we're tagging on the James River are going up and summering off of Long Island and Massachusetts, and making their way back the following winter and we're seeing them. This data, what you're doing is great, and the telemetry work that we're doing, we're seeing so much more coming out of that. We're really interested in this study. You did a really great job on this.

DR. ARMSTRONG: Thanks, I like the plug for, if any state is considering defunding deploying receivers, don't. They are tremendously useful.

CHAIR WARE: All right, thank you very much, Mike. Thank you for pulling that presentation together and thanks for everyone at Mass DMF that have been working on this. That was really great work.

DISCUSS RECREATIONAL RELEASE MORTALITY WORKGROUP TASK

CHAIR WARE: We're going to move on to our next agenda item, which is Discussing our Recreational Release Mortality Workgroup. Bringing us back to the January, 2024 Policy Board meeting.

It was agreed that a Board workgroup could be formed to discuss this issue. But before that workgroup proceeds, the Board needs to identify specific tasks that the workgroup would address.

OVERVIEW OF PAST BOARD DISCUSSION

CHAIR WARE: Emilie is going to give a brief presentation summarizing our past discussions on recreational release mortality, and then we'll open it up for Board discussion with our goal today on agreeing on a list of tasks for this workgroup.

MS. EMILIE FRANKE: To inform the Board's discussion of this release mortality topic, I put together a summary of recent Board consideration of release mortality, which was included in the meeting materials. I'll review some highlights from that summary and some potential tasking questions that the Chair has put forward for the Board's discussion. Again, we're all familiar with the background here. Since 1990, roughly 90 percent of all striped bass caught recreationally were released alive, and we apply that 9 percent release mortality rate to those live releases. Release mortality has been a large portion of the overall striped bass removals, in particular from 2017 to 2021.

That number of fish removed via release mortality was higher than the number of fish harvested. Recreational release mortality could be addressed through measures that would increase the chance of

survival after a striped bass is release, so for example particular gear restrictions, or through effort controls in the form of seasonal closures to reduce the number of trips interacting with striped bass, so to reduce the overall number of striped bass that are released alive.

The Board has sort of previously discussed these two different routes through Amendment 7. Starting with the gear restriction component gear. Back through Addendum VI. Addendum VI implemented the first requirement, specifically to address recreational release mortality, which is that requirement to use non-offset circle hooks when fishing for striped bass with bait.

This measure was later clarified, we added a definition of bait, and we also provided an exemption for artificial lures with bait attached. Then through Amendment 7 a couple of years later, the Board added another gear restriction, prohibiting the use of gaffs when fishing recreationally, and also requiring that any striped bass caught on an unapproved method of take must be released immediately.

Through the Amendment 7 development process, the Plan Development Team did put forward three additional potential gear restriction options that the Board ultimately chose to remove from consideration before the draft Amendment went out for public comment. Those options were to consider prohibiting treble hooks, consider requiring barbless hooks, and consider prohibiting trawling with wire for striped bass.

The Board did, as I mentioned, remove these from the document before it went out for public comment. The Board noted the complexities of managing specific gear requirements, considering the variation of striped bass fishing techniques along the coast. There were also some questions about the measurable benefit of potential gear restrictions.

The Board also noted that outreach and education would be an important alternative if gear restrictions were implemented, to promote best handling practices. Just sort of in general, the benefit of gear restrictions, so trying to quantify how many fish would be saved by a potential gear restriction is really difficult to quantify.

We don't know how many anglers are already using certain gear types, or how many anglers were already using triple hooks before the requirement was put in. You know we don't know what the noncompliance rate is, and there are also enforcement challenges in general related to proving what species an angler was targeting.

Moving on to the Outreach and Education portion. Both Addendum VI and Amendment 7 encourage states to continue developing outreach and education campaigns, both on the benefit of circle hooks and sort of general striped bass best handling and release practices. The Board did have a discussion through the Amendment 7 process about whether to require outreach and education as part of the FMP, but the Board ultimately decided that it would be really difficult to define what a required outreach program would look like, so the FMP should encourage that outreach and education, and also that most states were already implementing various outreach and education campaigns.

The next sort of approach to potentially reducing release mortality is to reduce the number of live releases overall. That could be through seasonal closures. The Board has discussed several times sort of the two different types of seasonal closures. There is the no harvest closure, where catch and release fishing would still be allowed, but harvest would be prohibited, and then no targeting closures, so no person could take or attempt to take our target of striped bass.

There are a few points of consideration that have been discussed throughout the past Board discussions. First that for any type of closure, fishing trips that are targeting other species that incidentally release striped bass, those trips would still occur, so that would affect the potential reduction in live releases.

Then also, any seasonal closure might shift effort to other species or shift effort to other times of the

year. Sort of going back to Addendum VI, Addendum VI did not consider any seasonal closures as part of the management options, although two jurisdictions, Maryland and the Potomac River Fisheries Commission did implement no targeting closures for striped bass through their Addendum VI conservation equivalency programs.

Both of those jurisdictions implemented those no targeting closures in the summer when the release mortality rates are relatively higher, due to environmental conditions. Those no targeting closures are still in place now as part of Addendum II. Draft Amendment 7 did consider seasonal closures. Primarily it considered no targeting closures.

There were and there continue to be several concerns about the enforceability or unenforceability of no targeting closures. But at the time during Amendment 7, you know it was assumed that no targeting closures would have the maximum reduction of effort, and so therefore the maximum reduction in releases if that was what the Board was trying to achieve.

Most of the options in draft Amendment 7 were no targeting closures. Another concern with no targeting closures is there is currently not a standardized method for estimating the reduction for no targeting closures, that estimated reduction depends on different assumptions about angler behavior, which is really difficult to predict. In addition to the type of closure in Amendment 7, so no targeting or not harvest, the Board also considered the geographic scope of potential seasonal closures.

The draft Amendment 7 PDT did put forward options for coastwide closures, regional closures and state-by-state closures. Prior to the document going out for public comment, the Board did remove the coastwide and regional closure options. The Board noted that they would support states having the flexibility to choose their own closure dates, and there was particular concern about requiring sort of a blanket Wave 4 closure along the coast, and the differential impacts that would have. Then for regional closures there was concern about how to define the different regions and avoid the issue of having different closure dates in shared water bodies. The draft Amendment 7 for public comment included options for state-specific no targeting closures. It also included some options for spawning closures.

But ultimately, the Board decided not to include any closures in Amendment 7. Again, the Board brought up enforceability concerns with no targeting closures, and also noted that on the spawning closure front that the existing spawning closures were adequate. Most recently draft Addendum II, last year the Plan Development Team did put forward options that combined size limit changes and no harvest closures.

When the Board was reviewing that initial document there was a discussion, and the Board did vote to add an option that would allow those closures be designated as no targeting. But then following that Board discussion, the Board ultimately voted to remove all seasonal closure options from the draft Addendum. Draft Addendum II ultimately did not have any options for seasonal closures.

That wraps up my presentation. Again, as the Chair mentioned, the Board action for consideration today is to approve a task for a potential Board workgroup on release mortality. Up here on the screen in the meeting materials the Chair did put forward a couple of potential tasking questions to start the Board discussion on this workgroup. I'm happy to take any questions.

CHAIR WARE: We'll kind of combine here, both questions for Emilie and then I think also getting to the discussion, given the time.

CONSIDER TASKING FOR RECREATIONAL RELEASE MORTALITY WORKGROUP

CHAIR WARE: I'll just note, the workgroup ideas or tasks are just a conversation starter that says property of the Board, so if folks would like to suggest something new, different or eliminate something that is all within the purview of the

Board's discussion today. Any questions or comments as we work to identify a task list for the workgroup. Adam Nowalsky.

MR. ADAM NOWALSKY: I would just request that under reviewing the existing non-targeting closures for striped bass, that that specifically include consultation with our federal partners that have worked with states law enforcement as well for a long time, enforcing the non-targeting from 3 to 200 miles offshore.

I think they could provide a lot of information about the number of cases that they've already made, a number of interactions that they've had. I think that would be highly informative as to answering the question of, is this enforceable, and at what level it is enforceable.

CHAIR WARE: Any other comments? I'm not seeing any questions, any comments on the workgroup tasking? Emerson Hasbrouck.

MR. HASBROUCK: I'm looking at the third bullet that you have there, identify assessment sensitivity runs, et cetera. For instance, how low would you have to reduce the release mortality rate, in order to see a viable reduction in removals with the same level of effort. I think another thing that we need to look at, based somewhat on the presentation that we talked to Mike just a few minutes ago. That is still inconclusive, but what I'm seeing there is that the mortality rate doesn't change too much between J-hooks and circle hooks, even with bait. You know it is a little bit higher with bait and with double treble hooks, but the rate doesn't change all that much. I think the other thing we need to look at there is not only how much do we have to reduce the release mortality rate, but how much do we have to reduce releases?

CHAIR WARE: I was just saying, we're writing notes, so if there is a pause that is why. Any other comments on this? If there is not, oh Jay, go for it.

DR. McNAMEE: I think the last bullet here upon the slide is really interesting. I don't think it's trivial though. I mean I don't know that this is maybe a super quick one to figure out, but it's really interesting. I think it would be really valuable to kind of go through that and kind of understand the sensitivity too.

There are two ways, I think. When I first read it, I was thinking sensitivity for this 9 percent assumption, and you can kind of bounce around and use different assumptions, apply it to the releases and kind of look at that. But on second read, I think it's more about kind of understanding how big a difference would it have to be, before you start seeing actual population level effects. Both would be interesting.

I don't think either of them are super simple analyses, so I don't know. It may be, I almost feel like it would be a good done for pushing out in like an RFP, like even a smallish one, but to have like a grad student work on for a semester, or something like that. But I just wanted to offer. It's a really good one, I think it would be super valuable.

DR. KATIE DREW: Yes, for sure. I think if you guys' recall, we actually did a series of sensitivity runs where we looked at using a different release mortality assumption rate for the assessment of doing, instead of the 9 percent what if we used a lower one, what if we used a higher one. What if we used a higher one in the Bay during the summer and the regular 9 percent the rest of the year.

Sort of back over the history of the assessment, and the results in that were sort of what you would expect, which is that I just scaled the population up and down, but the trends and the status were the same. In my mind, this one would be more about when we do the projections. You know we do the projections under, let's say we're going to assume a constant mortality rate or a constant level of removals, and that level of removals is based on maybe historical stuff, or whatever we think, you know how many are going to be released.

If we can reduce that sort of level of removals by a small amount, due to the reduction in release mortality, how does that affect your rebuilding timeline? How does that affect your population trajectory? I think for sure we could get really deep

in the weeds on this. But I think there are maybe some simpler approaches that we could consider just through the projection approach, which I think would get maybe at Emerson's question as well.

What is the tradeoff if we get the release down to 7 percent, is that better or more effective than let's say reducing trips by 10 percent, or reducing your total releases by X percent. You're like what is there? Can we see a tradeoff there? But I agree that this is probably used for work that could be done to really dig into that. But I think there is some stuff we can do in the short term that would still be valuable.

CHAIR WARE: I have Justin Davis and then Mike Luisi.

DR. JUSTIN DAVIS: Potential addition to the task list here might be to conduct some level of public scoping, about public attitudes about some of the potential options in here. I'm thinking ahead to where we might be going later this year. You know Addendum II, we voted up that option that gives the Board the ability to take Board action this fall, when we see the stock assessment if it's determined we need further reductions in F to meet our rebuilding goals.

I think it's possible the Board might want to take some things out of this list and adopt them this fall, because frankly we're sort of running out of room for things to do from a regulatory standpoint to reduce F. We're not going to be able to go through out standard Addendum process if we take Board action.

We're going to have to take quick action. There might be some opportunity to go out to our public and ask for opinions, but I think having some idea going into that of what the public thinks about some of these things, like non-targeting closures. Restrictions on terminal tackle might be helpful to us this fall. It seems like there are maybe some easy ways to get public input on some of these online surveys, that kind of thing. That is something to consider.

CHAIR WARE: Mike Luisi an then Emerson Hasbrouck.

MR. LUISI: Justin basically went over what it was I wanted to highlight. While you are side barring with Emilie, I just had a quick question for you. You or Emilie. I know you and I have spoken about the timeline that you envisioned for this working group to start meeting. Can you quickly go over that in anticipation for what might end up being a list of alternatives that would be considered for some future, maybe sooner than we like, but some future restriction on harvest?

CHAIR WARE: Yes, absolutely, Mike. After we approve, or assuming we approve the task list today for the workgroup, we'll send out an e-mail asking for those who are interested in participating in the workgroup, so we'll identify the workgroup. I'm hoping we can have at least one meeting before the August board meeting, and in terms of the draft task list so far.

I think those assessment sensitivity runs are the most time sensitive, because we would need to provide that to the TC by the August Board meeting. Then I believe that the workgroup would continue to work up until the annual meeting, which is when we would get the stock assessment. My hope is that the workgroup's tasks will be completed by the annual meeting, Mike.

MR. LUISI: Thank you for that, it puts it into perspective. Just to add on one small comment to what Justin was getting to with the public scoping of these ideas. I think if we are to go to the public and ask for some thought back from the public regarding reducing discard mortality. I really like the idea of this tradeoff that Dr. Drew was just discussing about, where is the line on the tradeoff? I feel like if you go out to the public with a blanket statement, what would you rather give up, the harvested fish or the catch and released fish? You are going to get a very split opinion. However, if there was a tradeoff between the two, you might find some common ground that we could use as a Board at the next phase of any type of management action we need to take.

CHAIR WARE: Emerson.

MR. HASBROUCK: Just building a little bit on Justin's suggestion about scoping and stakeholder input. Would it be possible to have AP representation on a working group? Is that within the scope of what we can do, have the AP appoint somebody to participate?

CHAIR WARE: Toni, go for it.

MS. TONI KERNS: The guidelines for a work group state that work groups are supposed to be composed of Board members. It is up to the Chair to appoint the work group members, and that we sometimes bring in outside Board members to provide information to work groups. But typically, that is not what Board work groups do, have participation for non-Board members on them.

CHAIR WARE: My intent is to likely keep the work group to Board members. But I do think it may be helpful for some of our discussions to have an enforcement representative join the meeting, or another idea is we could have an AP meeting prior to the annual meeting, if we're looking for scoping or AP involvement in the process leading up to the assessment. Max Appelman.

MR. MAX APPELMAN: I'm thinking about the non-targeting closures, and I know working with the Technical Committee, one of the struggles that they had is how to account for how anglers are responding to a closure like that. I'm wondering if there is a space within this workgroup, or if it is even the right place to do that, to try to shed some light on angler response and sort of help the TC better understand angler response to those calculations, and give us a more accurate way of calculating what reduction we might realize from a no targeting provision.

MS. FRANKE: I think that could potentially fall under this first task, and sort of asking Maryland and the Potomac River for any information or data they have, based on their current no targeting closures, and how that may have shifted effort or changed angler behavior. As far as asking anglers how they might change their behavior. I think maybe we could consider that as part of if there is some sort of public survey that the workgroup ends up pursuing. But I think that would be harder. It would be, I think difficult in sort of a hypothetical.

MR. APPELMAN: I don't know what the makeup of this work group is or what it might be, but even just bringing the knowledge of those work group members, you know bringing that to the table to sort of inform, you know how do anglers respond? How would you think they would respond? If there is anything to pull out from that to help inform this discussion and advance the tools that we might have available to us in the future.

CHAIR WARE: Adam Nowalsky.

MR. NOWALSKY: Building on Max's comment, I would offer that the work group could seek to pursue a literature review of any interaction between seasonal closures. Their result in angler behavior of pursuing non-targeting, and what that non-targeting has resulted in, in terms of discouraging effort entirely or shifting of effort.

I don't know what else might be out there, but I think some literature review for other species or other areas might be beneficial. On this idea of some type of survey, if the work group is uncomfortable making those assertions about what they think would happen themselves. I think laying out some groundwork of what that survey could look like, and how it would be administered would be helpful to come back to us, so we can think about how we can potentially implement getting that information.

CHAIR WARE: All right, I'm not seeing any other hands. I think we've had a good discussion here, certainly added to the list. I think we would be looking for a motion to approve the work group task list as we discussed today, and I would just maybe ask for the Board's flexibility. Some of these ideas may be a lot of work.

Just trying to match the time we have with what the Board can accomplish. Hearing definitely some interest in scoping, but maybe one of the tasks of the workgroup could be starting that discussion, and we'll come back in August with similar ideas of how

that could be carried out. If the Board is comfortable with that. Emilie is going to review verbally what she thinks we said.

MS. FRANKE: Just to make sure I'm clear on the task list. Starting with the first one on the screen. Review existing no targeting closures, including any information on impacts to striped bass catch and effort, as well as their enforceability. As sort of sub bullets to that first bullet we have the request to work with our federal partners, to get information on sort of federal enforcement of no targeting.

Also as was just brought up, for the work group to think about what does the work group think, or is there any literature out there on what angler response or change in behavior would be with no targeting closures? That is sort of the first bullet with some specifics added on. We have the second bullet, review the DMF discard mortality study which we just heard about, and other relevant reports to evaluate the efficacy of potential gear modifications.

Then we have the third bullet to identify assessment sensitivity runs, which may inform the Board discussion around release mortality. As Emerson and Dr. Drew brought up, sort of the tradeoff of release mortality rate versus reducing the number of releases. Then there is a fourth bullet that was added, which is considering public scoping on these topics.

I think realistically, I think the work can maybe talk about what that may look like, maybe in the form of a survey, and come back. We could also talk with Tina and the communication staff will come back in August to check back in on that topic. I have sort of these three bullets on the screen, plus that additional public outreach bullet. Do folks feel that that has captured the discussion? Okay, great.

CHAIR WARE: At this point we would be looking for a motion to approve the work group task list as discussed today. Emerson, are you making that motion? Thank you. Mike Luisi, a second.

MR. HASBROUCK: Do you want me to read it into the record?

CHAIR WARE: Yes, please, Emerson, thank you.

MR. HASBORUCK: **Move to approve the tasks for the Board Work Group on recreational release mortality as discussed today**.

CHAIR WARE: I think we've had a robust discussion here. Is there any burning comments folks need to make on this motion? Seeing none; **is there any opposition to this motion? Seeing none; it is approved by unanimous consent**. Thank you very much, everyone.

REVIEW AND POPULATE ADVISORY PANEL MEMBERSHIP

CHAIR WARE: Our next agenda item is to Review and Populate the Advisory Panel Membership, and I'll look to Tina.

MS. TINA L. BERGER: I offer for your consideration approval of the nomination of Peter Jenkins a recreational angler from Rhode Island to the Striped Bass Advisory Panel.

CHAIR WARE: Thank you, Tina. Is anyone willing to make a motion for Peter Jenkins? Jason McNamee.

DR. McNAMEE: Move to approve Peter Jenkins of Rhode Island to the Atlantic Striped Bass Advisory Panel. I'll talk a little more about Peter really quickly if I get a second.

CHAIR WARE: You got a second from Justin Davis, so go for it, Jason.

DR. McNAMEE: Yes, so Peter is a great guy, I've known him for a while. He is active, participates, he's engaged, and he'll be a really good addition to the Advisory Panel, so yes, hopefully folks will agree.

CHAIR WARE: Is there any discussion on this motion? Seeing none; **is there any objection to this motion? Seeing none; all right, welcome, Peter**.

ELECT VICE-CHAIR

CHAIR WARE: Next is to elect a Vice-Chair. Do I have any nomination for the Vice-Chair slot? Marty Gary.

MR. GARY: It would be my honor to nominate as the next Vice-Chair for the Atlantic Striped Bass Management Board, Mr. Chris Batsavage from the state of North Carolina.

CHAIR WARE: Thank you, and you have a second from Pat Geer. Any discussion on this motion**? Any objection to the motion: All right, welcome, Chris, to the Vice-Chair slot**.

OTHER BUSINESS

CHAIR WARE: We're on to Other Business. A few things here. I think Emilie is just going to give some reminders for how we're going to proceed with the work group.

MS. FRANKE: We will send out an e-mail asking for Board member volunteers to be part of the work group. I believe in the Work Group Guidelines, ultimately it is up to the Board Chair if we have a much larger group of individuals who express interest than would be manageable for a work group, so we will keep everyone updated on the work group membership. Then as Chair mentioned, I think the goal would be for the work group to sort of get started on these tasks and come back to the Board in August with an update. If there are any sort of initial recommendations from the work group, or the work group needs further clarification, we can do that in August. We will reach out following this meeting.

MYCOBACTERIOSIS IN DELAWARE

CHAIR WARE: Next, John Clark, I believe you had an item under Other Business.

MR. CLARK: Yes, just briefly some bad news, actually. We're seeing mycobacteriosis in our spring gillnet catch. Craig just had some experience with this, and I've heard from my colleagues in Maryland that you're seeing it in the Ocean City catch, and their fish pathologist has pretty much confirmed that it is Myco. Craig, what would you say the percentage was of that you were seeing?

MR. CRAIG PUGH: According to whether you want to call it, bad enough to throw back where it is not marketable. But there is a more marketable stuff that you could recognize it in under the scales that have not been lost yet, somewhere between 5 to 10 percent. I generally fish from the first week of April to the last week of April, so we just did finish up this, I can say catch somewhere between five or six hundred fish, and at least 5 to 10 percent were showing signs of this, or too, there were at least 10 fish, I believe, that were not marketable.

Where the lesions were certainly bad enough that we couldn't' sell them. We tried to target a fish primarily between 26 and 38 inches, mainly because the New York market is our most lucrative market. That is the size fish that I can say that we sampled primarily. Those fish weigh somewhere between 10 to 20 pounds on average, 17, 15, 17 is a pretty close average in that fish.

It's recognized, it's not the first time. It's nothing new. I have fished for striped bass over a 40-year period of my life, maybe longer. That was pre moratorium, through moratorium, and post moratorium. I recognize this, at least four, maybe five different times in the fishery over a number of years.

To us as fishermen, it is recognized as an over population of the species. The only time that it seems to resolve itself is when there is a reduction in the population. Then it seems to clear back up again. I know it's been blamed on a lot of things; at one time they blamed it on a chicken farmer. I don't really think it had much to do with the chicken farmers, but at any rate it has come, it has gone. This year it did show a significant increase over the last five, eight years. It may or may not show back up next year. We'll see.

Fish were plentiful, easy to catch. We fish with less gear, for less time each and every year in the last ten years. That kind of flies in the face of what this Commission has put out there, but those are the facts that as I see them. I know it is often described as anecdotal information. But it is real information, and it is not necessarily the peaks and valleys from an MRIP study, but these are as factual as I can get.

Now we've discussed hooks a lot, I can also say I had two incidences with hooked fish this year. One was a circle hook that was snagged by the sinker. The sinker was the type that you put in the seine with the wires. I don't recall the name of that. But that was a circle hook that was retrieved off it. The only reason why a fish was caught, was because of the sinker. The fish had moved through release and tangled up. The second was a 6-inch minnow, surface minnow with two treble hooks, in the mouth. Both were in the mouth. Both fish were alive and well, and the only reason they were caught in the gillnet was because they were a pretty good size hook.

It looked as though both of those instances were because of weak fluorocarbon or monofilament use at the other end. It had parted and failed on both of those instances. It's not unusual for me to catch anywhere from 2 to 6 hooked fish every year. We have a collection. We collect them, 40, 50, sometimes some guys have up to 100 different hooks that we find out of these fish. I'm willing to answer any questions or observations that you may have. Thank you.

MR. CLARK: We wanted to warn people that it is out there and also remind everybody that Myco is transmittable to humans, that is fish handlers' disease, and it can cause some really nasty infection, so just be on the lookout.

CHAIR WARE: Last thing I have under Other Business today is just to acknowledge that it is Mike Armstrong's last Striped Bass Board meeting, so I want to thank Mike for all of your immense contributions to this Board, as was very evident by your presentation today. We really appreciate your enthusiasm for this species, and your commitment to the Science, and you will be missed, so thank you very much.

DR. ARMSTRONG: A wise old man once told me, don't every bypass a hot microphone. I'm overwhelmed, like last night. It's been my honor. This Board, it's incredible what we do. We take a lot of flak. But the work gets immensely hard, and we don't all agree. But at the end we get good results. I'm looking forward to retirement, but this will be what I miss most in my career, is sitting on this Board. I wish you luck. There are huge challenges. This is actually a really great time to get the hell of this Board. Good luck, Nick. Thank you. Thank you for any recognition and all the help you've given me. I've learned a lot just sitting, but it's been my honor. Thank you.

CHAIR WARE: Thank you, Mike, we've certainly learned a lot from you as well.

ADJOURNMENT

CHAIR WARE: I think that is it today, is there a motion to adjourn?

COUNCIL MEMBER: So, moved.

CHAIR WARE: Thank you.

(Whereupon the meeting adjourned at 2:45 p.m. on Wednesday, May 1, 2024)

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

MEMORANDUM

TO: **Atlantic Striped Bass Management Board**

FROM: **Katie Drew, Stock Assessment Team Lead, and Emilie Franke, FMP Coordinator**

DATE: **July 22, 2024**

SUBJECT: **Request for Board Guidance on Potential Reduction Measures following the 2024 Stock Assessment Update**

Addendum II to Amendment 7 to the Interstate Fishery Management Plan for Atlantic Striped Bass includes the following provision:

> *If an upcoming stock assessment prior to the rebuilding deadline (currently 2029) indicates the stock is not projected to rebuild by 2029 with a probability greater than or equal to 50%, the Board could respond via Board action where the Board could change management measures by voting to pass a motion at a Board meeting instead of developing an addendum or amendment (and different from the emergency action process).*

The 2024 Stock Assessment Update for Striped Bass is currently underway and scheduled to be presented to the Board at the 2024 Annual Meeting. If the 2024 assessment indicates that a reduction in removals is needed to achieve *F* rebuild, in order for the Board to adjust measures in a timely manner following the assessment, the TC would need to calculate new management options estimated to achieve stock rebuilding by 2029. The TC would conduct the analysis before the Board meets for the 2024 Annual Meeting in October and the management options would be presented concurrently with the assessment results.

The TC could consider quota reductions for the commercial sector and changes to size limits, bag limits, and/or seasons for the recreational sector, although the range of viable options may be limited. The TC could consider a range of options on how the reduction is split between sectors. **ASMFC staff are requesting any additional guidance from the Board at this time on what types of recreational options should be considered (e.g., no-targeting vs. no-harvest closures) and options for how any potential reductions should be allocated across sectors.**

Review of Current Measures

Addendum II to Amendment 7 was implemented by the states as of May 1, 2024 to reduce fishing mortality in 2024 and support stock rebuilding. For the ocean recreational fishery, the Addendum implements a 28” to 31” slot limit, 1-fish bag limit, and maintains 2022 season dates for all fishery participants; this maintains the same ocean recreational measures adopted under the 2023 emergency action. For the Chesapeake Bay recreational fishery, the Addendum implements a 19” to 24” slot limit, 1-fish bag limit, and maintains 2022 season dates for all fishery participants. For the commercial fishery, the Addendum reduces commercial quotas by 7% from 2022 quota levels in both the ocean and Chesapeake Bay regions.

Atlantic States Marine Fisheries Commission

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703.842.0740 • www.asmfc.org

MEMORANDUM

July 22, 2024

To: **Atlantic Striped Bass Management Board**

From: **Tina Berger, Director of Communications**

RE: **Advisory Panel Nominations**

Please find attached two nominations to the Atlantic Striped Bass Advisory Panel – Tom Fote, a recreational angler and member of the Jersey Coast Anglers Association from New Jersey; and Will Poston, a recreational angler and member of the Saltwater Guides Association from the District of Columbia. Tom replaces Louis Bassano, who served on the AP for well over a decade and as AP Chair for the past few years, and Will replaces Joe Fletcher, who was a founding member of the Advisory Panel since its establishment in 1995.

Please review these nominations for action at the next Board meeting.

If you have any questions, please feel free to contact me at 703.842.0749 or tberger@asmfc.org.

Enc.

cc: Emilie Franke

Atlantic Striped Bass Advisory Panel

Maine
David Pecci (rec)
144 Whiskeag Road
Bath, ME 04530
Phone (o): (207) 442-8581
Phone (c): (207) 841-1444
FAX: (207) 442-8581
dave@obsessioncharters.com
Appt. Confirmed 5/23/02
Appt Reconfirmed 5/10

Bob Humphrey (for-hire)
727 Poland Range Road
Pownal, ME 04069
Phone (day): 207.688.4966
Phone (eve): 207.688.4854
bob@bobhumphrey.com
Appt. Confirmed 2/18/20

New Hampshire
Peter Whelan (rec)
100 Gates Street
Portsmouth, NH 03801
Phone (o): (603) 205-5318
Phone (h): (603) 427-0401
pawhelan@comcast.net
Appt. Confirmed 2/24/03
Appt Reconfirmed 5/10

Massachusetts
Patrick Paquette (rec/for-hire/comm)
61 Maple Street
Hyannis, MA 02601
Phone: (781)771.8374
Email: basicpatrick@aol.com
Appt. Confirmed 8/16

Craig Poosikian (comm. rod & reel)
19 Giddah Hill Road
PO Box 1878
Orleans, MA 02653
Phone: 508.240.2345
bhge@gmail.com
Appt. Confirmed 11/22

Rhode Island
Andrew J. Dangelo (for-hire)
1035 Liberty Lane
West Kingston, RI 02892
Phone: 401.788.6012
Maridee2@gmail.com
Appt. Confirmed 2/3/21

Peter Jenkins (rec)
36 Third Street
Newport, RI 02840
Phone: (508)735-7350
peter@saltwateredge.com
Appt. Confirmed 5/1/24

Connecticut
Kyle Douton (rec/tackle shop owner)
5 Rockwell Street
Niantic, CT 06357
Phone (day): (860)739-7419
Phone (eve): (860)739-8899
FAX: (860)739-9208
kyle@jbtackle.com
Appt. Confirmed 5/13/14

Toby Lapinski (rec/freelance writer)
10 Dogwood Drive
Old Lyme, CT 06371
Phone: 860.227.1872
toby.lapinski@gmail.com
Appt Confirmed 1/24/24

New York
Bob Danielson (rec)
86 Balin Avenue
South Setauket, NY 11720
Phone: 631.974.8774
Bdan93@optonline.net
Appt. Confirmed 10/22/20

Captain Julie Evans (comm)
43 South Dewey Place
Montauk, NY 11954-5056
Phone (day): 305.747.0604
Phone (eve): 631.668.5070
jevansmtk@gmail.com
Appt Confirmed 1/24/24

Atlantic Striped Bass Advisory Panel

New Jersey
Tom Fote (rec)
22 Cruiser Court
Toms River, NJ 08753
Phone: (908) 270-9102
tfote@jcaa.org

Eleanor A. Bochenek (retired fisheries scientists with experience in Mid-Atlantic rec. and comm fisheries)
117 Alexander Avenue
Villas, NJ 08251
Phone: (609) 425.0686
eboch@hsrl.rutgers.edu
Appt. Confirmed 11/5/21

Pennsylvania
Vacancy (rec)

Delaware
Leonard Voss, Jr. (com)
2854 Big Oak Road
Smyrna, DE 19977
Phone: (302) 653-7999
Appt. Confirmed 4/21/94
Appt. Reconfirmed 7/27/99; 7/03 and 7/07

Steven Smith (rec)
59 Burnham Lane
Dover, DE 19901
Phone (day): (302)744-9140
Phone (eve): (302)674-5186
smithbait@verizon.net
Appt. Confirmed 10/23/18

Maryland
Charles E. Green Jr. (for–hire)
7327 Woodshire Avenue
Chesapeake Beach, MD 20732
Phone: 301.233.0377
greeneddie@verizon.net
Appt. Confirmed 8/3/21

Vacancy (rec)

Virginia
Vice-Chair - Kelly Place (comm; reappted chair 10/2010)
213 Waller Mill Road
Williamsburg, VA 23185
Phone (h): (757) 220-8801
Phone (c): (757) 897-1009
FAX: (757) 259-9669
kelltron@aol.com
Appt. Confirmed 5/23/02
Appt Reconfirmed 5/06 and 5/10

William Edward Hall Jr. (rec)
PO Box 235
26367 Shoremain Drive
Bloxom, VA 23308
Phone (day): (757)854-1519
Phone (eve): (757)894-0416
FAX: (757)854-0698
esangler@verizon.net
Appt. Confirmed 5/13/14

North Carolina
Jon Worthington (rec)
405 Japonica Drive
Camden, NC 27921
Phone: (252) 562-2914
ncpierrat@gmail.com
Appt Confirmed 5/5/21

Jamie Lane (estuarine and ocean gillnetter)
602 South Main Street
Robersonville, NC 27871
Phone: (252) 312-6832
Jlwinsl3@ncsu.edu
Appt Confirmed 5/4/22

District of Columbia
Will Poston
1712 17th Street, NW
Washington, DC 20009
Phone: 202.577.8990
will@saltwaterguidesassociation.org

Potomac Fisheries River Comm.
Dennis Fleming (fishing guide; seafood processor/dealer)
P.O. Box 283

Atlantic Striped Bass Advisory Panel

Newburg, MD 20664
Phone: 240.538.1260
captaindennisf@gmail.com
Appt. Confirmed 2/3/21

ATLANTIC STATES MARINE FISHERIES COMMISSION

Advisory Panel Nomination Form

This form is designed to help nominate Advisors to the Commission's Species Advisory Panels. The information on the returned form will be provided to the Commission's relevant species management board or section. Please answer the questions in the categories (All Nominees, Commercial Fisherman, Charter/Headboat Captain, Recreational Fisherman, Dealer/Processor, or Other Interested Parties) that pertain to the nominee's experience. If the nominee fits into more than one category, answer the questions for all categories that fit the situation. **Also, please fill in the sections which pertain to All Nominees (pages 1 and 2). In addition, nominee signatures are required to verify the provided information (page 4), and Commissioner signatures are requested to verify Commissioner consensus (page 4). Please print and use a black pen.**

Form submitted by: Joe Cimino (your name) State: NJ

Name of Nominee: Thomas P. Fote

Address: 22 Caiser Ct.

City, State, Zip: Toms River, NJ 08753

Please provide the appropriate numbers where the nominee can be reached:

Phone (day): 908 270 9102 Phone (evening): 908 270 9102

FAX: 908 506 6409 Email: tfote@jcaa.org

FOR ALL NOMINEES:

1. Please list, in order of preference, the Advisory Panel for which you are nominating the above person.
   1. Striped Bass
   2. _____
   3. _____
   4. _____

2. Has the nominee been found in violation of criminal or civil federal fishery law or regulation or convicted of any felony or crime over the last three years?

   yes _____ no ✓

3. Is the nominee a member of any fishermen's organizations or clubs?

yes ✓ no_____

If "yes," please list them below by name.

Jersey Coast Anglers Assoc _____

_____ _____

_____ _____

4. What kinds (species) of fish and/or shellfish has the nominee fished for during the past year?

Striped Bass _____ Black sea bass _____

Bluefish _____ Summer Flounder _____

Tautog _____ _____

5. What kinds (species) of fish and/or shellfish has the nominee fished for in the past?

All of them! _____ _____

_____ _____

_____ _____

FOR COMMERCIAL FISHERMEN:

1. How many years has the nominee been the commercial fishing business? _____ years

2. Is the nominee employed only in commercial fishing? yes_____ no_____

3. What is the predominant gear type used by the nominee?_____

4. What is the predominant geographic area fished by the nominee (i.e., inshore, offshore)?_____

FOR CHARTER/HEADBOAT CAPTAINS:

1. How long has the nominee been employed in the charter/headboat business? _____ years

2. Is the nominee employed only in the charter/headboat industry? yes _____ no_____

   If "no," please list other type(s)of business(es) and/occupation(s):_____

   _____

3. How many years has the nominee lived in the home port community? _____ years

   If less than five years, please indicate the nominee's previous home port community.

   _____

FOR RECREATIONAL FISHERMEN:

1. How long has the nominee engaged in recreational fishing? 10+ years

2. Is the nominee working, or has the nominee ever worked in any area related to the fishing industry? yes _____ no ✓

   If "yes," please explain.

Mr. Fote has been a strong advocate for recreational fisheries for decades, but it has all been done on a volunteer basis.

FOR SEAFOOD PROCESSORS & DEALERS:

1. How long has the nominee been employed in the business of seafood processing/dealing? _____years

2. Is the nominee employed only in the business of seafood processing/dealing?

   yes _____ no _____ If "no," please list other type(s) of business(es) and/or occupation(s):

   _____

   _____

   _____

3. How many years has the nominee lived in the home port community? _____ years

If less than five years, please indicate the nominee's previous home port community.

_____

FOR OTHER INTERESTED PARTIES:

1. How long has the nominee been interested in fishing and/or fisheries management? _____ years

2. Is the nominee employed in the fishing business or the field of fisheries management?
yes ____ no _____

If "no," please list other type(s) of business(es) and/or occupation(s):

_____

_____

_____

FOR ALL NOMINEES:

In the space provided below, please provide the Commission with any additional information which you feel would assist us in making choosing new Advisors. You may use as many pages as needed.

NJ LGA commissioner to ASMFC for 30 years
David H. Hart Award recipient 2019
MAFAC member
JCAA Legislative Chairman

Nominee Signature: _____ Date:

Name: _____
(please print)

COMMISSIONERS SIGN-OFF (not required for non-traditional stakeholders)

Joseph Cimino (on behalf of the NJ delegation)

_____ _____
State Director State Legislator

_____
Governor's Appointee

ATLANTIC STATES MARINE FISHERIES COMMISSION

Advisory Panel Nomination Form

This form is designed to help nominate Advisors to the Commission's Species Advisory Panels. The information on the returned form will be provided to the Commission's relevant species management board or section. Please answer the questions in the categories (All Nominees, Commercial Fisherman, Charter/Headboat Captain, Recreational Fisherman, Dealer/Processor, or Other Interested Parties) that pertain to the nominee's experience. If the nominee fits into more than one category, answer the questions for all categories that fit the situation. **Also, please fill in the sections which pertain to All Nominees (pages 1 and 2). In addition, nominee signatures are required to verify the provided information (page 4), and Commissioner signatures are requested to verify Commissioner consensus (page 4). Please print and use a black pen.**

Form submitted by: Rese Cloyd (your name) State: District of Columbia

Name of Nominee: Will Poston

Address: 1712 17th NW

City, State, Zip: Washington, DC 20009

Please provide the appropriate numbers where the nominee can be reached:

Phone (day): 2025778990 Phone (evening): " "

FAX: _____ Email: will@saltwaterguidesassociation.org

FOR ALL NOMINEES:

1. Please list, in order of preference, the Advisory Panel for which you are nominating the above person.
   1. Striped Bass
   2. _____
   3. _____
   4. _____

2. Has the nominee been found in violation of criminal or civil federal fishery law or regulation or convicted of any felony or crime over the last three years?

   yes _____ no No

3. Is the nominee a member of any fishermen's organizations or clubs?

   yes Yes no _____

   If "yes," please list them below by name.

American Saltwater Guides Association

Friends of Fletcher's Cove

Tidal Potomac Fly Rodders

4. What kinds (species) of fish and/or shellfish has the nominee fished for during the past year?

Striped Bass

Bluefish

False Albacore

BSB

Bluefin and Yellowfin Tuna

Catfish

5. What kinds (species) of fish and/or shellfish has the nominee fished for in the past?

All the above

fluke, scup

Spanish Mackerel

speckled trout

redfish

FOR COMMERCIAL FISHERMEN:

1. How many years has the nominee been the commercial fishing business? _____ years

2. Is the nominee employed only in commercial fishing? yes_____ no_____

3. What is the predominant gear type used by the nominee?_____

4. What is the predominant geographic area fished by the nominee (i.e., inshore, offshore)?_____

FOR CHARTER/HEADBOAT CAPTAINS:

1. How long has the nominee been employed in the charter/headboat business? _____ years

2. Is the nominee employed only in the charter/headboat industry? yes _____ no_____

If "no," please list other type(s)of business(es) and/occupation(s):_____

_____

3. How many years has the nominee lived in the home port community? _____ years

If less than five years, please indicate the nominee's previous home port community.

_____

FOR RECREATIONAL FISHERMEN:

1. How long has the nominee engaged in recreational fishing? 20 years years

2. Is the nominee working, or has the nominee ever worked in any area related to the fishing industry? yes Yes no _____

   If "yes," please explain.

I currently work full time for the American Saltwater Guides Association on fisheries policy and other issues pertaining to marine fisheries/ecosystems.

In addition, I write about conservation topics for a fly-fishing media company and sit on the Boards of two local organizations--Friends of Fletcher's Cove and the Tidal Potomac Fly Rodders.

FOR SEAFOOD PROCESSORS & DEALERS:

1. How long has the nominee been employed in the business of seafood processing/dealing? _____years

2. Is the nominee employed only in the business of seafood processing/dealing?

   yes _____ no _____ If "no," please list other type(s) of business(es) and/or occupation(s):

3. How many years has the nominee lived in the home port community? _____ years

   If less than five years, please indicate the nominee's previous home port community.

FOR OTHER INTERESTED PARTIES:

1. How long has the nominee been interested in fishing and/or fisheries management? 15 years

2. Is the nominee employed in the fishing business or the field of fisheries management? yes Yes no _____

   If "no," please list other type(s) of business(es) and/or occupation(s):

FOR ALL NOMINEES:

In the space provided below, please provide the Commission with any additional information which you feel would assist us in making choosing new Advisors. You may use as many pages as needed.

I am interested in becoming a Striped Bass Advisory Panel member due to my love for striped bass fishing, my interest in lending a younger perspective to this AP, and hope to be a positive voice in rebuilding and sustaining the most important fishery on the Atlantic Coast. In most years, I fish for striped bass up and down the coast, using a variety of methods, from February through late October. Much of my professional work for the American Saltwater Guides Association involves striped bass; I am well-informed regarding striped bass science, ongoing research, and management history. Further, as a younger angler doing this work, I am motivated by the stories of "the good 'ol days' and want to see this fishery return to its prominence. While my striped bass experience ranges from Maine to Virginia, I would hope to bring my observations from fishing on the Potomac River in Washington, DC to this panel and provide insights such as river conditions for spawning, abundance of schoolies, etc. I thank you for your consideration and am open to answer any additional questions.

-Will Poston

Nominee Signature:  Date: 07/18/2024

Name: Will Poston
(please print)

COMMISSIONERS SIGN-OFF (not required for non-traditional stakeholders)

Emily (Rese) Cloyd
Digitally signed by Emily (Rese) Cloyd
DN: cn=Emily (Rese) Cloyd, o=Department of Energy and Environment, ou=Fisheries & Wildlife Division, email=rese.cloyd@dc.gov, c=US
Date: 2024.07.18 13:56:25 -04'00'

State Director

State Legislator

Governor's Appointee

From: Jonathan Barry
To: Emilie Franke
Subject: [External] Striped Bass fishery in the gutters
Date: Sunday, June 16, 2024 12:42:24 PM

Hi Emilie,

The striped bass fishery is officially in a worse state than the 1980 moratorium era. There needs to be radical action or we will lose these fish.

Commercial fishing, illegal immigrants not following regulations, low spawn counts, and social media photoshoots from catch and release fisherman are destroying the fishery.

North shore of Massachusetts should be on fire right now, nobody is doing well up here. It should be on absolute fire mid June, again best fisherman I know who exclusively fish with eels are going out night after night and not catching anything in their best spots.

The striped bass fishery needs a permanent solution, it is currently 1980s era status.

From: Emilie Franke
To: Emilie Franke
Subject: FW: [External] Striped Bass fishery is collapsing
Date: Tuesday, July 16, 2024 11:45:56 AM

From: Jonathan Barry <jonathanbarry1949@gmail.com>
Sent: Thursday, June 27, 2024 11:19 AM
To: Bob Beal <RBeal@ASMFC.org>
Subject: [External] Striped Bass fishery is collapsing

Sir, the striped bass fishery is collapsing. Every fisherman I know is struggling like never before.

We need to have a great compromise between the commercial and recreational community.

It is time that we shut down commercial harvest of striped bass but with a caveat, no new commercial licenses granted along the eastern seaboard, all commercial license holders prior to 2025 will be grandfathered in, with a 10 year decreased quota plan.

Lets be very clear, we have millions of tax paying surfcasters that are sick and tired or a terrible striped bass fishery, I am not yelling but I want to emphasize this: THIS IS THE ONLY SUMMER LONG SPORT FISHERY THAT WE CAN ENJOY FOR SPORT IN THE NORTHEAST CORRIDOR. As tax payers we have the right to have a healthy fishery.

Lets recover the Atlantic halibut fishery, the Atlantic cod fishery and have these striped bass commercials go make money off of these fisherieshl (I know it is not so simple but it is achievable), why can't the surfcasting community have one protected sports fishery in the northeast?! We just ask for one healthy fishery once and for all.

Ask Dave Anderson his opinion from The Fisherman Magazine, he is the best surf caster in New England. He states that we are now at 1980s moratorium status. The striped bass fishery is at an extremely unhealthy level and we continue to commercially harvest these fish? Please we beg you to come up with a final solution to the striped bass problem sir.

Thank you

From: Jonathan Barry
To: Emilie Franke
Subject: [External] Striped Bass fishery very bad
Date: Wednesday, July 10, 2024 1:44:11 AM

Hi

I just spoke to a commercial guy in Massachusetts he said he is lucky if he can find 4 fish per night the striped bass fishery is in a disastrous state

From:	T. DEVINE
To:	Emilie Franke
Subject:	[External] Jan 24 Webinar Thanks and hatchery suggestion
Date:	Wednesday, January 24, 2024 8:27:58 PM

Dear Ms Franke,

Thank you for the well run webinar today on the Striped Bass Addendum.

I have an idea which was not appropriate for the comments today.

I suggest that the committee sponsor some hatchery trial programs to increase striped bass young of the year. To date everyone has focused on reducing striped bass harvest to boost striped bass biomass. They also bemoan the poor recruitment, i.e. young of the year surveys. Can hatchery raised fingerlings improve recruitmant and biomass?

Although it is a completely different ecosystem, hatchery raised walleye are now being suggested as a solution to the walleye collapse in Canada's Golden Lake. https://www.cbc.ca/news/canada/ottawa/it-was-once-eastern-ontario-s-premier-walleye-lake-and-could-be-again-1.6931448 The problem was rainbow smelt eating eggs and the first year offspring of all fish including the walleye. Stocking with 1 year old fish would make them too large to be forage for the smelts. (heard a similar problem with gobies in the Hudson during today's comments.)

Several issues have been raised as to why there is a collapse of young stripers, and hatchery raising can address some. If it were just environmental conditions preventing fertilization of eggs or preventing the fertilized eggs from progressing to fingerlings, a hatchery program could help. Then raising to fingerling size would be all that is needed. If it is preditation, then hatchlings might have to be raised to 1 year, like in the Golden Lake story above.

While some will argue thathatchery raising is just a drop in a bucket, do not forget that all the stripers in the Pacific Ocean were started with even a smaller population:
"Stone went to the Navesink River in northern New Jersey and collected over 100 striped bass from the estuary. The four day long journey was brutal and some fish died, but 135 stripers arrived safely in San Francisco, where they were promptly released into the bay.
A second release of 300 fish occurred in 1882 to bolster the populations, and all anybody could do at that point was to wait and see if the fish would like their new environment. https://saltwatermecca.com/pacific-striped-bass/

There used to be a picture in Chris's Marina in Red Bank NJ (Now the Monmouth

County Swimming River Park) of striped bass being released from a 5 gallon bucket into the Navesink River at the marina. So someone did some stocking in the very late 1900's.

If we are not getting enough young of the year, let's make some ourselves. Our current approach is "less taken out, more left over". Let's add to that by saying," put more in, get more out". I have no idea if the board can support a hatchery program with funding. Even if they cannot help provide funding, they can still encourage the states to try hatcheries. Many states already have a hatchery program for trout, bass, and even hybrid stripers and should be able to devote some resourses to pure stripers.

Please pass along these comments for future deliberations (not the current addendum) by the technical teams and advisory panel.

Thank you for all you do to keep the system running.

Tom Devine, Treasurer Hi-Mar Striper Club, Middletown, NJ

From: tim johnson
To: Emilie Franke
Subject: [External] Striped Bass fishery is abysmal on the ASMFC"S watch
Date: Saturday, July 13, 2024 12:01:25 PM

Hey since this organization clearly cannot manage the Atlantic Striped Bass fishery and is either lobbied or scared of the commercial fishing groups at the very least can you ban harvest for recreational fisherman and ban any new commercial licenses at the national level level and grandfather in any existing commercial fishing for striped bass so that these losers don't complain about not being able to make a few grand off striped bass.

The striped bass fishing is abysmal and taxpayers deserve to have a healthy fishery in the northeast since it's virtually our only consistent sports fish from shore.

This is becoming unbearable how dogshit this fishery is and people are getting pissed off

From: Zach
To: Emilie Franke
Subject: [External] Striped bass fishery is collapsing
Date: Tuesday, June 25, 2024 8:48:19 PM

The striped bass fishery is collapsing right in front of our eyes, why continue to allow harvesting? Best fisherman I know throwing eels in the best spots in Massachusetts catching absolutely nothing night after night after night. Low spawn counts, mass poaching and commercial harvesting, no changes to the policies to make a real impact.

Unbelievable.

Atlantic States Marine Fisheries Commission

American Lobster Management Board

August 6, 2024
2:45 – 5:30 p.m.

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 *(P. Keliher)* — 2:45 p.m.

2. Board Consent — 2:45 p.m.
   - Approval of Agenda
   - Approval of Proceedings from April 2024

3. Public Comment — 2:50 p.m.

4. Progress Update on Benchmark Stock Assessment for American Lobster *(J. Kipp)* — 3:00 p.m.

5. Plan Development Team Report on Conservation Measures for Lobster Conservation Management Areas 2 and 3 *(C. Starks)* — 3:10 p.m.
   - Report from Lobster Conservation Management Team 3

6. Report on Colby College Economic Impact Analysis of a Lobster Gauge Increase *(A. Lindsay)* — 3:45 p.m.

7. Consider Addendum XXX on the Mitchell Provision for Final Approval — 4:00 p.m.
   Final Action
   - Review Options and Public Comment Summary *(C. Starks)*
   - Consider Final Approval of Addendum XXX

8. Review Discussions with Canada on Complementary Management Measures *(P. Keliher)* — 5:00 p.m.

9. Vessel Tracking Workgroup Report on the 24/7 Tracking Requirement of Addendum XXIX *(C. Starks)* — 5:15 p.m.

10. Other Business/Adjourn — 5:30 p.m.

The meeting will be held at The Westin Crystal City (1800 Richmond Highway, Arlington, VA; 703.486.1111) and via webinar; click here for details.

MEETING OVERVIEW

American Lobster Management Board
August 6, 2024
2:45 – 5:30 p.m.

Chair: Pat Keliher (ME) Assumed Chairmanship: 02/24	Technical Committee Chair: Tracy Pugh (MA)	Law Enforcement Committee Rep: Rob Beal (ME)
Vice Chair: Renee Zobel (NH)	Lobster Advisory Panel Chair: Grant Moore (MA) Jonah Crab Advisory Panel Chair: Sonny Gwin	Previous Board Meeting: April 30, 2024
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, DC, PRFC, VA, NMFS, NEFMC (12 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from April 2024

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. Progress Update on Benchmark Stock Assessment for American Lobster (3:00-3:10 p.m.)

Background

- The benchmark stock assessment for American lobster is in progress with results expected in 2025.
- The Assessment Methods Workshop was held in July 2024. The Assessment Workshop is scheduled for Fall 2024.

Presentations

- Progress Update on Benchmark Stock Assessment for American Lobster by J. Kipp

5. Plan Development Team Report on Conservation Measures for Lobster Conservation Management Areas 2 and 3 (3:10-3:45 p.m.)

Background

- In January the Board tasked the lobster Plan Development Team (PDT) to review the original goals and objectives of Addenda XXI and XXII and make recommendations for alternate measures to achieve those goals, considering recommendations from the LCMA 2 and 3 Lobster Conservation Management Teams (LCMTs).

- LCMTs 2 and 3 met to provide input to the Board on possible measures and impacts to the lobster fishery **(Briefing Materials)**.
- The PDT compiled a report to characterize the changes in the lobster fishery and possible alternative management measures (**Briefing Materials**).

Presentations

- Plan Development Team Report by C. Starks

6. Report on Colby College Economic Impact Analysis of a Lobster Gauge Increase (3:45-4:00 p.m.)

Background

- In April the Board reviewed an Economic Impact Analysis on the minimum gauge size increase for LCMA 1 (**Briefing Materials**).
- A review of this study was carried out by Dr. Amanda Lindsay, Assistant Professor of Economics at Bates College. Dr. Lindsay specializes in bioeconomic modeling and management of marine fisheries **(Briefing Materials)**.

Presentations

- Report on Colby College Economic Impact Analysis of a Lobster Gauge Increase by A. Lindsay

7. Consider Addendum XXX on the Mitchell Provision for Final Approval (4:00-5:00 p.m.)
Final Action

Background

- In January 2024, the Board initiated Draft Addendum XXX. The Addendum is being considered to clarify how the measures of Addendum XXVII, approved in May 2023, will apply to foreign imports of American lobster (**Briefing Materials**).
- Two virtual public hearings were held in April and May. The public comment period ended on June 3, 202 (**Briefing Materials**).

Board actions for consideration at this meeting

- Addendum XXX Final Approval and Public Comment Summary by C. Starks

Board actions for consideration at this meeting

- Consider Final Approval of Addendum XXX

8. Review Discussions with Canada on Complementary Management Measures (5:00-5:15 p.m.)

Background

- Maine, New Hampshire and Massachusetts fishery lobster managers and industry members met with Canadian lobster fishery managers and industry members to discuss complementary management between the US and Canada.

Presentations

- Review Discussions with Canada on Complementary Management Measures by P. Keliher

9. Vessel Tracking Workgroup Report on the 24/7 Tracking Requirement of Addendum XXIX (5:15-5:30 p.m.)

Background

- Responding to industry concerns over privacy related to the tracking requirements of Addendum XXIX, the Board tasked the Vessel Tracking Workgroup, with input from the law

enforcement committee, to investigate modifications to the 24/7 vessel tracking requirement which still ensure monitoring of fishing activity while acknowledging that fishermen also use boats for personal/nonfishing reasons, and reviewing existing processes for when Vessel Monitoring Systems (VMS) devices can be turned off.

- The Vessel Tracking Workgroup compiled a report on possible solutions, impacts to data collection, law enforcement considerations, and VMS regulations (**Briefing Materials**).

Presentations

- Vessel Tracking Workgroup Report by C. Starks

10. Other Business/Adjourn (5:30 p.m.)

American Lobster and Jonah Crab TC Task List

Activity level: High

Committee Overlap Score: Medium

Committee Task List
Lobster TC • August 1, 2024: Annual Compliance Reports Due • Fall 2024: Annual data update of lobster abundance indices • Summer 2024-Spring 2025: Development of lobster stock assessment *Jonah Crab TC* • August 1, 2024: Annual Compliance Reports Due • Fall 2024: Annual data update of Jonah crab abundance indices

TC Members
American Lobster: Kathleen Reardon (ME), Joshua Carloni (NH), Jeff Kipp (ASMFC), Justin Pellegrino (NY), Corinne Truesdale (RI), Chad Power (NJ), Tracy Pugh (MA, Chair), Burton Shank (NOAA), Craig Weedon (MD), Somers Smott (VA), Renee St. Amand (CT)
Jonah Crab: Corinne Truesdale (RI, Chair), Derek Perry (MA), Joshua Carloni (NH), Chad Power (NJ), Jeff Kipp (ASMFC), Conor McManus (RI), Allison Murphy (NOAA), Kathleen Reardon (ME), Chris Scott (NY), Burton Shank (NOAA), Somers Smott (VA), Craig Weedon (MD)

Lobster Stock Assessment Subcommittee (SAS) Members
Jonah Crab: Tracy Pugh (MA, TC Chair), Conor McManus (RI), Joshua Carloni (NH), Kathleen Reardon (ME), Burton Shank (NOAA), Jeff Kipp (ASMFC)

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

AMERICAN LOBSTER MANAGEMENT BOARD

The Westin Crystal City
Arlington, Virginia
Hybrid Meeting

April 30, 2024

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ATTENDANCE

Board Members

Pat Keliher, ME (AA)
Steve Train, ME (GA)
Rep. Allison Hepler, ME (LA)
Cheri Patterson, NH (AA)
Doug Grout, NH (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
Dan McKiernan, MA (AA)
Raymond Kane, MA (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)
Jason McNamee, RI (AA)
David Borden, RI (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
Colleen Bouffard, CT, proxy for J. Davis (AA)
Marty Gary, NY (AA)
Emerson Hasbrouck, NY (GA)
Amy Karlnosky, NY, proxy for Assy. Thiele (LA)
Joe Cimino, NJ (AA)
Jeff Kaelin, NJ (GA)
Adam Nowalsky, NJ, proxy for Sen. Gopal (LA)
John Clark, DE (AA)
Roy Miller, DE (GA)
Mike Luisi, MD, proxy for L. Fegley (AA, Acting)
Shanna Madsen, VA, proxy for J. Green (AA)
Allison Murphy, NOAA

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

Ex-Officio Members

Corinne Truesdale, Technical Committee Chair
Tracy Pugh, Technical Committee Chair
Rob Beal, Law Enforcement Committee Rep.

Staff

Bob Beal
Toni Kerns
Tina Berger
Madeline Musante
Tracy Bauer
Emilie Franke
Caitlin Starks
Chelsea Tuohy
James Boyle
Julie DeFilippi Simpson
Geoff White
Trevor Scheffel
Joe Myers
Kristen Anstead
Katie Drew
Jeff Kipp
Jainita Patel
Lindsey Aubart

Guests

Robert Atwood, NH FGD
Pat Augustine
Michelle Bachman, NEFMC
Linda Barry, NJ DEP
Greg Blackler, MEFA
Michael Bowen, Cornell University
Chris Brehme, University of Maine
Curt Brown, Ready Seafood
Delayne Brown, NH FGD
Joshua Carloni, NH FGD
John Carmichael, SAMFC
Chris Cash, University of Maine Lobster Institute
Charlene Cates
Nicole Caudell, MD DNR
Barry Clifford, NOAA
Haley Clinton, NC DEQ
James Cooper
Jennifer Couture, NEFMC
Scott Curatolo-Wagemann, Cornell Cooperative Extension of Suffolk County
Conor Davis, NJ DEP
Laura Deighan, NOAA
Dustin Delano, NEFSA
Wayne Delano, NEFSA
Jacob Dorothy, MA DMF
Anna Dorrance, ME DMR
John Drouin, NEFSA
Roman Dudus
Paul Eidman, Reel Therapy Fishing Charters
Libby Etrie, Conservation Law Foundation
Julie Evans, East Hampton Town Fisheries Advisory Cmte.
Joanne Filion

James Fletcher, Unites National Fisherman's Association

Guests (continued)

Travis Ford, NOAA
Christine Ford, NOAA
Emily Gilbert, NOAA
Lewis Gillingham, VMRC
Caitlin Giuliano, MD DNR
Heather Glon, ME DMR
Jennifer Goebel, NOAA
Andrew Goode, Univ. of ME
Melanie Griffin, MA DMF
Amalia Harrington, Univ. of ME
Heidi Henninger, NOAA
Jay Hermsen, NOAA
Borden John
Moira Kelly, NOAA
Carrie Kennedy, MD DNR
Kris Kuhn, PA FBC
Robert LaCava, MD DNR
Nicole Lengyel-Costa, RI DMF
John Maniscalco, NYS DEC
Anthony Mastitski, Marine Stewardship Council
Patrice McCarron, Maine Lobstermen's Assn.
Genine McClair, FL FWC
Alexandre Meirhaeghe, NYS DEC
Meredith Mendelson, MA DMR
Drew Minkiewilz, NALA
Erica Fuller
Keilin Gamboa-Salazar, SC DNR
Chris Moore, Chesapeake Bay Foundation
Molly Moran-Ogren, RIDEM
Janelle Morano, Cornell University
Lorraine Morris, ME DMR
Brandon Muffley, MAFMC
Robert Murphy, NOAA
Thomas Newman, North Carolina Fisheries Assn.
Jeff Nichols, MA DMR
John Norton, Cozy Harbor Seafood Inc.
Nicole Ogrysko, Maine Public Radio
Scott Olszewski, RI DEM
Alexis Park, MD DNR
Derek Perry, MA DMF
Will Poston, ASGA
Krisibal Poziloz, MLA
Jill Ramsey, VMRC
Marianne Randall, NMFS
Kathleen Reardon, ME DMR
Hugh Reynolds,
Harry Rickabaugh, MD DNR
Matt Rogers, VMRC
Matthew Gates
Pat Geer, VA (AA)
James Rogers
Hank Sale, AOLA
Tara Scott, NOAA
Chris Scott, NYS DEC
Alexei Sharov, MD DNR
David Sikorski
Somers Smott, VMRC
Renee St. Amand, CT DEEP
Kristen Thiebault, MA DMF
Chad Thomas, NC Marine & Estuary Foundation
Frank Thompson, MLU
Andrea Tomlinson, New England Young Fishermen's Alliance
Laura Tomlinson, MA DMF
Jesica Waller ME DMR
Anna Webb, MA DMF
Craig Weedon, MD DNR
Kelly Whitmore, MA DMR
Angel Willey, MD DNR
Travis Williams, NC DEQ
Nathan Willse, ME DMR
Gregory Wojcik, CT DEEP
Valerie Wright
Chris Wright, NOAA
Renee Zobel, NH FGD

The American Lobster Management Board of the Atlantic States Marine Fisheries Commission convened in the Jefferson Ballroom of the Westin Crystal City Hotel, Arlington, Virginia, via hybrid meeting, in-person and webinar; Tuesday, April 30, 2024, and was called to order at 9:00 a.m. by Chair Pat Keliher.

CALL TO ORDER

CHAIR PATRICK C. KELIHER: I'm going to call the Lobster Board meeting to order; and to ensure that Eric Reid is paying attention, Aloha.

APPROVAL OF AGENDA

CHAIR KELIHER: The first item is to ensure that we have Approval of the Agenda. Are there any other items that any Board member would like to bring up? Steve Train.

MR. STEPHEN TRAIN: I have a tasking motion I would want to add on later on if I can, under Other Business.

CHAIR KELIHER: Yes, okay, thanks, Steve. Does anybody else? Dan McKiernan.

MR. DANIEL McKIERNAN: Yes, under Other Business, I just want to bring an issue forward to the Board regarding the take of lobsters by non-trap gears, very brief.

CHAIR KELIHER: Thank you, Dan, anybody else? We are going to receive a lot of public comment this morning on items not on the agenda, so I am going to make a statement at the end regarding Addendum XXVII, and some complexities with that. I am not looking for action; but I just wanted to make sure it is clear to the Board some of my thoughts around that particular issue.

APPROVAL OF PROCEEDINGS

CHAIR KELIHER: Moving ahead on the agenda we have the Approval of two proceedings from both January and March of 2024. Did any member of the Board see any issues with the minutes from those meetings? Seeing none; we will accept those by consensus.

PUBLIC COMMENT

CHAIR KELIHER: Number 3 on the agenda is Public Comment. As I said, I am aware that there are members of the public that want to speak on addendums that focus on both trackers, gauge increases, and the Mitchell Amendment.

I would remind those who want to speak to the latter, Addendum XXX that the Commission is still accepting public comment on that Addendum until June 3rd, and a second webinar will be held on April 9. I will not be taking comments only on Addendum XXX. However, I do recognize that Addendum XXVII and XXX are somewhat linked, so I will give some latitude. But please, do not focus strictly on Addendum XXX, and make sure your comments are sent in to the Commission through the public comment process. Knowing we're going to have members of the Lobster industry who are going to want to address the Lobster Board, we have added 30 minutes to the agenda here this morning. It's already a very full agenda, so I will take comments from people in attendance and then online. Toni, well I guess I can do that since they can hear me. Would those folks who are online, who would like to speak on items not on the agenda, could you please raise your virtual hand on the webinar.

How many people that are in the room plan to speak? One, two, three, four, five, six. Just two online, okay. Because we have limited time, I would ask you to please all avoid repeating the same points. To avoid that, please just reference a speaker on a topic and say that you agree with somebody else who has spoken before you.

I would also ask that you consolidate your comments by having one person, if possible, speaking on behalf of groups or organizations. Because we have so many people, I'm only going to give each speaker three minutes to address the Board, and it's going to be a firm stop at three minutes. Please know that Board members have

all received over 100 pages of comments in our supplemental material.

We are aware of the concerns that the industry is now bringing up. Today we are here to listen, as a Board, and not to respond to the comments. Please, members of the industry, I would ask you please not to take the lack of response as discounting your comments. More will be said on that at the end of the meeting.

At this time, I am going to ask for, do you have the list, Caitlin, of the people in the room? No, I am going to take those in the room first, who took the time to travel down, and I'll have those comment first, and then we'll go to those online. The first on line is Kristan Porter from the Maine Lobstermen's Association, who wants to speak on both Addendum XXVII and XXIV. I'm going to ask you to consolidate on your comments, Kris. Welcome.

MR. KRISTAN PORTER: Thank you, Mr. Chairman, thank you members of the American Lobster Management Board to hear my comments today. First of all, I want to start off with Addendum XXIV. I think the MLA would request that the Board relook at the 24/7 provision. This was mentioned in the comments and by one of the members here, Steve Train, that this would be a little overreach for our fishery.

I guess people need to know that in Maine the lobster boat isn't just a fishing boat, it might be a school bus, it might be a grocery wagon, it might be a picnic cruiser. Some of that data is not useful in spatial management. It probably will be noise, and it will probably be a burden. We just ask if there is a way to look at, if those trackers can be either turned off or set in a skiff when you are using your boat for personal use.

The second thing is, I know there are other people here to talk about Addendum XXVII, and I know we're not supposed to talk about Addendum XXX. But I think XXX is going to be a mess if you don't address Addendum XXVII. I think that in our comments we've said that there are going to be some issues with Canada, and there are going to be some socioeconomic issues. We don't know if those have been addressed. I think we need to relook at them. I think we need time to get this figured out with the trade. I think one of those ways may be to look at, kind of skip forward and go directly to the vent increase and not the gauge. That way it doesn't affect trade. The lobsters that are landed are still the same size. Maybe that could be maybe a stop gap, so we can figure out the trade issue and let the science play out for a little bit longer, and see if we really are in a downturn. I just want to give a personal, if I've got a little bit of time left.

I fish in an area of Downeast Maine called the grey zone, and we share an area with Canada. We're not on a line, we comingle in that area. With the gauge increase, I will be throwing lobsters overboard, not to say, I'll catch you next year when you're bigger. It will be going directly to another boat and probably be shipped in a lobster truck right in front of my house. That is a pretty tough pill to swallow when you're on an unequal playing field with your neighbor. That is tough. Thank you for hearing me out.

CHAIR KELIHER: Thank you for those comments, next up is Dustin Delano, and then Frank Thompson.

MR. DUSTIN DELANO: Thank you, Chair, good morning. My name is Dustin Delano, and I'm a fourth-generation lobster fisherman from Friendship, Maine. I'm here to represent myself as a harvester of over 20 years, and to also represent the New England Fishermen's Stewardship Association.

Thank you for providing extra time for folks to make their comments today, and since you have all received NEFSA's comments in your supplementals, I'll be brief and I'll allow others a chance to speak. I am going to allow the inner harvester in me to speak out and be very blunt on this issue.

Many of you may think this ask for a one-year delay in implementation of Addendum XXVII's gauge increase is just another charade, because fishermen just plain and simply do not want to increase their gauges. I'm here to tell you today that part of what I just said is completely true. A majority of fishermen I know do not want an increase in the minimum size of the gauge.

However, despite the unusual ask and the current circumstances, we desperately need time to address the issues surrounding Canada. Our fishermen comingle with Canadians, just as Kristan spoke about in the grey zone and beyond that. Beyond that, dealers and the lobster chain move in lockstep with Canadian counterparts.

Lobster dealers have overcome many hurdles in the last few years from things such as retaliatory tariffs on lobster to the COVID 19 pandemic. Dealers and fishery management did a great job to keep everyone fishing in those instances. What we're asking here is to allow for a one-year delay, to help us avoid another catastrophic problem with dealers, harvesters, and even fishery managers are forced to improvise on a whim, taking risks and playing more games of trial and error in the final hour.

The North Atlantic Lobster Fishery must work in lockstep with Canada, to ensure the stability of markets and trade. We ask you today to please consider this ask from the many New England stakeholders providing comment. I also just want to add to NEFSA support for the MLAs ask on the 24/7 tracking requirements from Addendum XXVII. We also share that concern.

CHAIR KELIHER: Thank you, Dustin, Frank, and Hugh Reynolds will be up next.

MR. Frank Thompson: Thank you, Commissioner. I don't want to waste your time; I agree with Dustin and Kristan about all this. Everything in my letter is the same as what they've got. I'm in agreement with them, and I am here for the MLU. Thank you.

CHAIR KELIHER: Thank you, Frank, I appreciate that and I appreciate your brevity. We have both your written comments here that you passed along, as well as the comments in the supplemental. We'll take Hugh and then Hank Soule and then Curt Brown.

MR. HUGH REYNOLDS: Thank you, Mr. Commissioner, my name is Hugh Reynolds, I own Greenhead Lobster, it's a wholesale distribution and lobster processing company in Stonington, Maine. We have over 100 employees, and we deal with over 100 independent harvesters on a daily basis. I'm sorry to come to the game so late, but the impacts of XXVII are starting to ripple through our communities, and the chat is getting pretty severe.

Of the 100 independent harvesters, I would like to speak to them briefly. They are not ready for this. The Colby College study in Addendum XXVII has the economic impact being 4 million dollars. That is combined with a 10 percent reduction in the catch. That is the DMR sign saying 10 percent down, and the overall economic impact of 840 million dollars.

In our town alone it's 8 million dollars. In the times of raging inflation and what the fishermen are battling, I just don't think they are ready. One of the things, we're just asking for time to brace for impact for this measure. Then I would like to speak about my own company. We barely survived the retaliatory tariffs of '18, '19, had to buckle down.

We said we probably wouldn't survive another change, and let's say if there was a change in the supply matrix that we look at a very serious change in our supply matrix that would be disruptive to the lobster community that finds us in the New England states and our Canadian neighbors. I don't think its good for the industry, we're not ready for it.

I have talked to my Canadian partners. They realize that we're all tied together, and they are interested in increasing their measure and

cooperating with great respect for the science that has been done with the Atlantic States Marine Fisheries Commission. There is a possibility that they will cooperate and make this not such a harsh impact to companies like myself. That is why I'm here today, thank you for your time, and we have this great ask, just to have a pause. Let us consider, look at science and brace for impact. We're not ready.

CHAIR KELIHER: Thank you, Hugh. I've got Hank Soule, Curt Brown and then Drew.

MR. HANK SOULE: Good morning, I'm Hank Soule here representing the Atlantic Offshore Lobstermen's Association. Submitted a letter to many of the Commissioners a couple of days ago, regarding our concerns, not so much about either Addendum XXVII or Addendum XXX, the AOLA doesn't really take a position on those. But what we came to realize is there was an interplay between those two, and when you consider the potential impacts in tandem, could have very serious implications on not just we believe the lobstermen, but also the shoreside processors. We're in the dark, because we don't understand what those impacts might be, because at least today we're unable to see that any analysis has been done to those. That was the ask we had of the Commission, is that before moving ahead with both of these, the Commission try to gather some information, particularly from the processing community on what they see that the impacts would be, and bring that back for the Commissioners to consider, so they can make a more important vote. Thank you very much.

CHAIR KELIHER: Thank you, Hank, Curt Brown. Curt is famous for the phrase, "people don't come to Maine to eat chicken."

MR. CURT BROWN: Infamous, and you'll notice, Commissioner that I have two button down shirts, one I wore last night and the same one we wore at that meeting two weeks ago. This is my fancy dress here. Thank you very much for having me this morning, everybody, I very much appreciate it. My name is Curt Brown, I am a lobsterman out of Cape Elizabeth, Maine and a marine biologist at Ready Seafood based in Portland and Saco.

Collaborate with the Department of Marine Resources in Maine on a number of research projects. Actually, right now we have Emma from the Department coming into our facility looking for lobsters that are ready to molt, so that we can track growth and learn more about that. We also collaborate on a number of other projects. We do that because we care about the future of this industry, and I think all of in this room are here for that same reason.

In the past we have seen ups and downs in both landings and surveys for lobster. In Maine this current conversation is driven, mostly by a downturn in Downeast Maine off all time highs in the number of juvenile lobsters that we've been seeing. We saw a similar decline in the same area from 2013 to 2015, and that was followed by those same all-time highs.

This past year we saw an buck in settlement for the first time in a while, which was very good to see in both the suction sampling survey that the DMR does that Steve and I have been a part of for, I'll say decades at this point in time. It's been a while, and also in a collaborative research project that Ready Seafood works on with the University of Maine looking at settlement in deeper water, and we saw an uptick in settlement in deeper water as well.

I guess my ask today is given these small positive signs, a year isn't a trend by any means, and I'm certainly not here to question the department science. But given these positive trends, and also the economic implications that we've heard about so far this morning. In Maine, and also with our Canadian counterparts, maybe it would be a good time to hit the pause button on a gauge increase.

See if we can get some coordination across states and across countries, especially with Canada, on this issue, because the implications are drastic and severe, as you've heard. If something does absolutely need to happen, I would echo what

Kristan said earlier, and maybe the Technical Committee could look at the implications of an event increase alone. But I'll leave it at that. I appreciate the time. Thank you very much.

CHAIR KELIHER: Thanks, Curt, and the last comment in the room is Drew.

MR. DREW MINKIEWKZ: I'm an attorney for the North Atlantic Lobster Alliance, which is the dealers and processors from the New England states. I don't want to reiterate a lot was said, obviously a lot of concern throughout the lobster industry about this pending gauge increase. What I would like to ask though, is for the Commission to really consider and try and pursue.

If it is determined that conservation measures, increased conservation measures are necessary, by looking at additional science and more thorough analysis, then is there a conservation measure that can be taken that decouples from the gauge increase and takes the trade issues off the table? That is the key here.

There are many ways to increase conservation in this fishery without creating intense ramifications within international trade. We can go down that road if the vent is increased, or some other measure we haven't discussed or thought of at this moment. I think this Commission and the industry owes it to ourself to try to pursue that avenue, so that we can maintain the goals and aspirations of the management plan, and keep international trade and the robust dealers from processing industry in place, to create a strong market for the entire industry. Thank you.

CHAIR KELIHER: Who do we have online? First up is Andrea Tomlinson. Andrea, can you hear?

MS. ANDREA TOMLINSON: Yes, I can, can you hear me?

CHAIR KELIHER: Loud and clear.

MS. TOMLINSON: Great, hi, good morning, everyone. Andrea Tomlinson from the New England Young Fisherman's Alliance. We are a workforce development nonprofit that has come into the scene in the last two years. Our big programing currently is we train young deckhands and stern men with at least three years' experience on the back of a boat from Portland down to Gloucester, on what it entails to become an owner/operator. It's called Deck Hand to Captain training.

I get to speak to the socioeconomic effect of Addendum XXVII. I would like to say we definitely confer with Tristan, Dustin, Hank Soule, Hugh Reynolds on their comment. But there are a couple things that New England Young Fishermen's Alliance would like to see, and that is a more comprehensive dataset with more industry collaborative research involvement.

We do require our young trainees to do at least 15 hours of collaborative research and/or advocacy. Advocacy would be giving comment on this meeting today, showing up at a Council meeting. We would love to see some more collaborative research on this recruitment issue that incorporates the industry a little bit more.

The other thing I would like to speak to is, I was just at a conference called IFISH put on by NIOSH, so that is the Northeast Center for Occupational Health and Safety. That falls under NIOSH, which falls under the CDC. We were in Rome with a bunch of social scientists who are studying the effects of regulations on fishermen's mental health. This is happening all over the world, unbeknownst to me, until I was at the IFISH conference in Rome this January. This is not an easy time to be in the arena of trying to encourage young people to get into this industry. We hear a lot of young people saying they don't want to get into the industry due to several factors, access, cost. They feel that the industry is highly over regulated in both groundfish and lobster. That is something we hear from young people, and they also feel as though they don't have a voice.

I met an 18-year-old at Maine Fishermen's Forum who says he doesn't go to meetings, because he

doesn't feel that he has a voice. I feel that we have to do something about that. Along that same note, the materials that I see the ASMFC putting out concerning this are really fabulous, I'm looking at the white paper as we speak that was put out in May on this Addendum. They are really tangible; we love sending them out to young fishermen and women to have them look over to understand this.

I know you can't comment today, Lobster Board, but I was going to encourage the ASMFC, if it is possible, to even work through your Board members and/or your representatives in the states to do some outreach and education on these upcoming regulations, so the young fishing community can understand more thoroughly, you know; who, what, when, where and why. I would just encourage you to do that. I would be happy to help and assist in doing that as well. I think there is a real gap between.

CHAIR KELIHER: Andrea, I'm going to cut you off at three minutes. I appreciate your comments though.

MS. TOMLINSON: All right. Thank you.

CHAIR KELIHER: Next up is Charlene Cates. I just would remind the speakers to not cover ground that has already been covered. Charlene, you are on still?

MS. CHARLENE CATES: Yes, I am, can you hear me?

CHAIR KELIHER: Loud and clear.

MS. CATES: I agree with Kristan Porter, Dustin, Hugh, Curt, Andrea and the others who have spoken today. My name is Charlene Cates; I am the Executive Vice President and Chief Financial Officer at Machias Savings Bank. We're bringing an economic lens. I represent 155-year-old, 2.5-billion-dollar bank with 15 locations across the state, our coastal communities in particular are in Calais, Machias, Colombia, Bar Harbor, Elsworth, Rockland and Portland, so we see the entire coast. We hold over 700 loans to individuals to be used in commercial fisheries, representing 42 million dollars in exposure. These totals do not include loans to processors, retailers, state distributors, the trap shops. This does not include consumer loans, mortgages, and related household exposure with our fishing community.

We cite these numbers, not to protect ourselves, but to give you an idea of the ripple effect of decreased profitability on communities. We can say we are already seeing signs of financial stress across the industry; whether it's a loan modification request or a conversation in a loan officers office with fishermen. Addendum XXVII adds to the existing vulnerability. From our economic lens and we will stay in our lane. This is too much, too fast. The science may say a 10 percent reduction, but cash flow can cut deeper. Imagine if someone proposed this potential 20 percent or more pay cut for you in January. With inflation climbing, your interest rate not yet dropping, and your bottom line shrinking.

The industry is caught in a perilous time of rapid transformation, and we know what Andrea said, uncertainty and fear do slow economies, by shrinking spending across all sectors. We encourage more conservative and iterative change in conjunction with Canada, in order to help our families thrive, the industry remain viable and the state prepare for what are anticipated in more changes ahead. We thank you for your time this morning, and we do support the lobster industry in these efforts.

CHAIR KELIHER: Great, thank you for those comments, Charlene. Next up is Wayne Delano. Wayne.

MR. WAYNE DELANO: Good morning. I want to first say, I agree with pretty much everything everyone else has said. Well anyway, I'm Wayne Delano, third generation lobster fisherman from Friendship, Maine. I have been lobstering for close to 40 years. I made my living in marine resources since I was a child.

I'm here today to express support and comments submitted by New England Fishermen's Stewards Association. I want to (faded out). Commissioner Keliher went around to the (faded). I expressed my opposition at the Zone B council meeting. At that time, I suggested to Pat at the Council that if.

CHAIR KELIHER: Wayne, make sure you stay close to your microphone, because you're going in and out.

MR. DELANO: Yes, okay. If Addendum XXVII was going to go forward with the increase, it needed to be made in smaller increments than a 16th of an inch. The last gauge increase we had happened in 1989. With that increase by 1/32, it was a manageable approach. Fast forward to 2024, I mean I feel strongly that hit our bottom lines doing a 10 percent or better reduction, and I think it's more than 10 percent in the catch.

It would have far too damaging an impact to keep everyone sustainable. Thirty-five years ago, fisheries management, it was a 1/32 increase, to be less impact over the harvesters. At that time, we never even imagined expenses to be as high as they are today. I just ask you to take into consideration that 10 percent reduction in landings equates to much more than 10 percent reduction in our bottom lines, if some of us completely don't make it.

I ask the Commission to please consider a one-year pause. If any action must be taken at that point, a smaller more frequent increase like a 32nd of an inch at one time would be an easier pill to swallow. Please think about the hundreds of young fishermen in the industry who are starting out with high debt and low profit margins. Thank you for your time.

CHAIR KELIHER: Thank you, Wayne, I appreciate it. Since we opened the conversations up, we've had two more come on, John Drouin and John Norton. I'm going to go to John Drouin, but I am going to ask you to keep your comments very brief, because we've blown through the 30 minutes that we set aside for this. John Drouin, can you hear me?

MR. JOHN DROUIN: Yes, Sir, I can. I would just like to say, my name is John Drouin, I am a lobster fisherman from Cutler, Maine, have been for 45 years, and Cutler is the epicenter of the grey zone. The grey zone is a body of water that is 210 square nautical miles that is shared by the Americans and Canadians.

The Canadians cling to within three and one-half miles is where the Canadians fish off of Cutler Harbor. Addendum XXVII will provide zero conservation benefits in this area, which effect fishermen from Eastport down through Jonesport, and beyond. Whatever you're looking for, for like it says, conservation benefits, are going to be null and void in this area.

It goes hand in hand with Addendum XXX as well. If the Canadians get to retain these lobsters that we don't, it's just another slap in our face as they go to market for lobsters that we cannot retain. I would love to spend some more time and talk to you about the grey zone, and perhaps in the future we can. Thank you.

CHAIR KELIHER: Last up for public comment, John Norton. John.

MR. JOHN NORTON: I will try to make this brief. I am concerned that the interplay between Addendum XXVII and XXX. The U.S. processing industry sector relies on supplies of Canadian lobsters during May and June. If those lobsters from Canada are diverted, then the survivability of U.S. processors is at risk.

That supply probably is 90 percent of U.S. processing in those months. Without those months we would not be able to cover overhead for the year. I think it would produce a tremendous following out of the lobster processing industry in the U.S. If that happens, we would be left in the situation we were in 2012, when the supply shot hit the U.S. industry, we had

a strike for $1.75 a pound, and I don't want to go back to those days.

CHAIR KELIHER: Thank you, John, and I appreciate those comments. That concludes the comment period for items not on the agenda.

PROGRESS UPDATE ON BENCHMARK STOCK ASSESSMENT FOR AMERICAN LOBSTER

CHAIR KELIHER: At this time, we're going to jump right into the agenda. But I would just remind the Board that I've got a few comments as it pertains to some of those things that we've heard here today at the end of the meeting. Item Number 4 is a Progress Update on the Benchmark Stock Assessment for American Lobster, so Tracy, take it away.

DR. TRACY PUGH: Hello everyone. This is going to be really quick. We have essentially just started the stock assessment process, and I'm going to give you a two-slide quickie. Your Subcommittee members for this are Kathleen Reardon from Maine, Josh Carloni from New Hampshire, myself, from Massachusetts, Burton Shank from National Marine Fisheries Service, Conor McManus from Rhode Island, and Jeff Kipp from ASMFC. We are receiving additional support this time around from a couple of external researchers, Dr. Theresa Burnham with the University of Maine, is helping us out with some socioeconomics information, and Dr. Geni Nesslage from the University of Maryland is going to be heavily involved in helping us update our growth information through this assessment. Essentially where we're at is we had a three-day data workshop in February.

A lot of that was focused on bringing in outside information, learning from folks outside of the Assessment Committee on what they are doing and how their information might be relevant for the assessment process, with just simply understanding life history updates. We have also initiated; the modeling crew is having biweekly phone calls at this point in time to discuss updates in status on progress on the modeling work.

We've had our first webinar on April 19, and so our future schedule is we have another webinar on June 3rd. We have a multiday meeting coming up in July that is scheduled to meet in New Bedford, Mass. We have another multiday meeting coming up this fall some time, the location is to be determined.

The other fits of the schedule are we plan to have a draft report ready for the Technical Committee to review by February of '25. The Peer Review Workshop then will hopefully take place in May of 2025, and the final presentation to the Board of the completed and reviewed assessment, we're hoping will be in August of 2025. I will happily take any questions if anybody has any about this.

CHAIR KELIHER: Any questions for Tracy on the update? Seeing none.

AMERICAN LOBSTER TECHNICAL COMMITTEE REPORT ON NORTHERN EDGE LOBSTER POPULATION AND FISHERY

CHAIR KELIHER: We are going to go right along to Item Number 5, which is a Technical Committee report on the Northern Edge. Back to Tracy.

DR. PUGH: I'm also going to go relatively quickly through this. The background on this is, this is in with respect to a potential New England Fisheries Management Council action looking into opening up scallop access to a portion of Closed Area 2 on the northeast portion of Georges Bank. There is a specific area of interest.

Essentially, there is a closed Habitat Management Area in that region, and they are looking at providing scallop access to a portion of this Habitat Management Area. On the map here, essentially this is just where we're talking about. This is all in NMFS Statistical Area 561. The yellow here on the map is that Habitat Management Area.

The pink and the black slashes in this map show essentially two of the proposed scallop access areas. They were considering four access areas. My understanding is that as of their meeting in

April, they have reduced the areas they are considering down to just two areas. The pink area on this is one of those areas, and I think it is the upper portion of the pink is one area, and then the full portion of the pink is another area that they are still considering.

My understanding is that the Council is going to be looking for updated information in June, and potentially taking action in September. Again, this is my understanding of the Council process. The task from the Board to the TC was to characterize potential impacts of the lobster population and fishery relative to presence and absence of lobsters, particularly egg bearing females, and then also take a look at fishing effort in the area.

We gave a little bit of information update to the Board in January, and this presentation essentially summarizes the final report that we provided to you in meeting materials. The data sources that we've used for this; fishery independent surveys to look at relative abundance in population characteristics, so the Science Center's Spring and Fall Trawl Surveys.

We went back to the year 2000 with these data, and looking at station-specific catch at locations on and off the Bank. The Coonamessett Farm Foundation generously gave us data access to a seasonal scallop dredge survey that they've been conducting since 2012. For the relative abundance in population characteristics, we looked specifically at a subset of their data that happens up on top of the Bank and that has sufficient sampling resolution to let us look at seasonality.

Fishery dependent data gave us some information about catch characterization, so the kind of catch that we're seeing in commercial traps, size, sex ratio, reproductive status. We have data from the CFRF Lobster Study Fleet on this going back to 2013, and those data were constrained specifically to the scallop access areas being proposed.

We also have a little bit of data from the Federal Observer Program, just a couple years' worth of data there. For additional fishery dependent data. In 2015, AOLA and New Hampshire Fish and Game did a Harvester Logbook Survey, where they were taking information from harvesters. We used that to look at distribution of egg bearing females.

There is a tagging study available, so we'll look at lobster movements around the Bank, and then we use VTR data, Federal shrimp report data, to look at lobster effort and landings. We looked at both within Statistical Area 561 on and off the Bank, and we tried to look at it a little bit finer resolution on 10-minute square levels.

Then finally, again, from the CFF seasonal scallop dredge survey, we can look at the impact of scallop gear on lobsters it sells. The seasonality abundance, the graphs here on the left. You see the spring survey data. On the right is the fall survey. Notice the scale difference in the points on these graphics.

The spring survey catch is topping out at about 50 lobsters per tow, whereas, the fall is topping out at about 300 lobsters per tow. Even though the dots in spring look bigger, the catch in the spring is actually a little bit lower than fall overall. You can see there is a seasonal pattern, so the higher catches in spring are off the Bank, whereas in the fall the higher catches are up on the Bank.

The highest catch that we saw in the season is in that Habitat Management Area in the green, so that big blue dot was over 300 lobsters in that tow. For seasonality, this is the scallop dredge survey 2017 to 2019 data. Again, this was a subset that was happening specifically up on top of the Bank.

You can see a pretty consistent seasonal pattern here in the catch. With the winter to spring being relatively low, it increases, and so we see the highest catch rates then in that August to October time period before it drops off again in December. For sizes and sex ratio, on the left this is from the trawl survey, the Federal trawl survey. I'm only showing you a portion of the graphic that is included in your final report. This is just the on-Bank portion of the graphic from the final report,

and the top is fall, the bottom is spring, the red is females, the blue is males.

On the right the graph is from the scallop dredge survey, again females are in red, males are in blue. Both of these mobile gear surveys are showing us a very strong female skew sex ratio, particularly in the fall. Then we're seeing predominantly larger lobsters, again predominantly this is happening in the fall time period.

Then we looked at the scallop dredge survey data, and 57 percent of those females were egg bearing females. For commercial catch data, so this is commercial lobster catch data. This lobster study fleet, this is data constraints specifically to those scallop access proposed areas. We did see year-round fishing activity in those areas in many of the years that we looked at, and again this goes back to 2013.

The graphic for the size is included in your report, I'm not showing it here, but we are seeing a fair number of large lobsters comprising the catch from these commercial catch data. Looking at the stability of that size distribution over time, females are pretty stable throughout the three through four seasons, whereas males, the size distribution was a little bit larger in the fall and the winter, a little bit smaller in spring and summer.

When we look at sex ratio, the graph here is showing an actual ratio. If you look like 10 in this graph is 10 females to 1 male. You can see in the four seasons we're seeing relatively consistent female skew all seasons, over all of the years that we looked at, and particularly in the spring and summer, which is when most of the actual observations were happening.

Quarter 2 is seeing annually more than 10 females for every male, and in Quarter 3, which is July through September, we've got several years where we're seeing that high skew of 10 to 1, and that is about 90 percent or so female. The bottom graph here shows regressive status over sizes, so the X axis is lobster size.

In the black you can see the proportion of females with eggs. This does tend to increase with female size. The highest proportions were observed in Quarter 1 catch, but this is sort of the lowest overall total lobsters observed. The lowest proportion of egg bearing females were observed in Quarter 2 here.

For commercial sizes and sex ratio, this is from the Federal Observer data. Again, relatively limited, this is only from 2013 to 2015 with available data, and again, I'm only showing you a portion of the figure that is included in your final report. Most of the catch that was observed through this program actually was taking place off the Banks, but what I'm showing on the screen here is on the Bank catch.

You can see essentially; we're only getting catch observations from June through October. June the catch was relatively sporadic, but in July catch rates pick up, and so you can start to see the size distribution here. The females are in black and in orange. Black shows females with eggs, orange is no eggs. Males are in blue. You can see there is relatively high catch rates of lobsters, above a hundred millimeters in most months. A hundred millimeters is about four inches carapace length. Again, we see this in particularly the females, and if you look specifically at October, you can see that the catch is dominated by egg bearing females from about 88 to about 110 millimeters size,

We used the Harvester Logbook Program to look at the distribution of egg bearing females. This happened in 2015, and they looked at over 13,000 trap hauls. Over 48,000 total lobsters, 19,051 of them were ovigerous females. You can see the broader distribution is in the graph here, but you can see two concentrations of high proportions of egg bearing females.

One of those is right up on top of the Bank. We do see some very high proportions of egg bearing females in what would be the southernmost portion of that Habitat Management Area. The colored boxes in this aren't quite in alignment with the current Habitat Management Area, because

this is an older proposed region. But they are very close, so it gives you a good idea of where those egg bearing females are in relation to the current proposed Habitat Management Area, and scallop closures.

Movement data, so a couple caveats with the movement data. First, these are predominantly discarded lobsters from commercial catch, so we're talking about egg bearing females, V-notched females, and undersized lobsters make up most of what they tag. Again, this kind of tagging data specifically offshore is very dependent on where commercial fishing activity is actually taking place, so both in terms of lobsters available to tag and release and in terms of recaptures.

We've broken down these maps by the release time period. This Quarter 1 here is the winter releases, and recaptures happen at any point in time. You can see there is not a lot of activity here. The red on this graph shows one of the proposed scallop access areas for reference. Quarter 1 we would see a little bit of recapture happening up on top of the Bank.

If we move to Quarter 2, we've got more activity happening, and you can see in the northernmost portion of the along the scallop proposed areas, we are seeing activity, so this means both fleet fishing activity and lobster activity happening. Quarter 3 is summer period. You can see there is a fair amount of activity up on top of the Bank here, and a little bit of activity in the northernmost portion of the scallop access areas that are proposed.

Quarter 4 is fall, again lots of activity up on top of the Bank, in terms of both fleet and recaptures, and a little bit of activity in the northernmost portion of that scallop proposed area. For landings and effort data, again this is VTR data. We took a look at this, and we're pretty sure that the VTR is going back to 2013 specifically for this region, actually do capture most of the trips happening.

We looked at the VTR data on two sort of levels of resolution within Statistical Area 561. The big grey box there is for all of 561, the green is that Habitat Management Area, and the black outline is one of the proposed scallop areas. The blue dash line here is the hundred-meter depth contour, which is what we're using to delineate on and off the Bank.

We looked at it both on and off the Bank, and then at the 10-minute square level for this. We have a lot more confidence in the data at the 561 scale then we do at the 10-minute square. This is because of the way the VTR data are reported. Fishers on VTRs tend to report a single Lat/Long on the VTR, so it doesn't necessarily represent the specific location of all of the trawls that they hauled in their trip, it's just the one specific area.

We don't think it fully captures the full footprint of where activity is happening. But with that said, the graphs here show on the top the number of active vessels, the bottom is landings. The blue line here is off of the Bank and the red line, I'm sorry, the blue is on-Bank and the red is off-Bank.

You can see that activity on the Bank and landings on the Bank increase in July. The number of vessels is highest from July through October, and the landings show a pretty clear peak in August, but are generally high from July through October. Landings on the Bank do account for a pretty good proportion of the annual landings in Area 561 as a whole.

Looking at the 10-minute square level, again, this is where we have slightly less confidence that the spatial resolution is really accurate. But you do see the seasonal pattern. The first six months of the year, essentially, we see all of the activity in terms of landings happening in the deeper water off of the Bank.

Then as the landings start to pick up, as you get into July through October. Most of those landings seem to be happening immediately south of the scallop area, so the bright yellow box there is the highest in the landings scale that we're showing here. Then landings within the access areas are

considered essentially a small to moderate amount of the monthly landings at this resolution.

Finally, the impact of scallop gear on lobsters, and this is the physical impact of the gear on the lobsters. For this we were unable to use the full dataset from the Coonamessett Farm scallop dredge survey, so going back to 2012 they observed 2,060 females and 216 males. Of those, only 37 percent of those females were undamaged, and only 31 percent of those males were undamaged, and that is shown in the pie graphs on the left.

If you look at that the orange and the red, essentially are moderate and lethal damage respectively. You can see the fair amount of females and males experienced at least moderate, if not lethal damage. Egg bearing females seem to be more robust to this gear, 45 percent of the egg bearing females were undamaged versus only 27 percent of non-egg bearing females were undamaged.

We think this is likely because those egg bearing females have had that shell on for a really long time, so the shell was actually very hard at that point. Particularly, molted lobsters or recently molted lobsters, seem to be particularly vulnerable. Seventy-three percent of recently molted lobsters had lethal damage, 33.5 percent of hardshell lobsters had lethal damage.

When we looked at a model to try to incorporate size into this analysis, again I'm only showing you a part of the graphic that is available in your final report, so this is for the lobsters that did not have eggs. The model is predicting major damage being extremely high. The blue line here is the major damage, and you can see specifically for the paper shell lobsters upwards of 90 percent of lobsters are going to have major damage.

There does appear to be a size component here, so the model predicted increase in major damage as you got above about 110 millimeters. You can see this in the hardshell graph there with the lines picking upwards at those larger sizes.

To summarize, lobsters do appear to be present year-round on the Banks, but relative abundance is much higher in the late summer to the fall time period. Large aggregations of ovigerous females do appear on top of the Bank. From the data that we have, this seems to happen sort of in and immediately south of that Habitat Management Area.

The lobsters that we're seeing are very large, mostly over 100 millimeters, and this is consistent across the various data sources, so we're getting this from commercial trap gear, we're getting this from survey gear, we're getting this from scallop dredge gear. Similarly, females skewed sex ratios are pretty consistent across all of the available data sources.

We do see moderate levels of fishing activity from July through November in the Habitat Management Area, so in the closed area. There appears to at least be some overlap with the proposed scallop access areas. Again, on-Bank fishing does contribute a relatively large portion of landings for 561 as a whole.

One thing I wanted to point out here, because I essentially complained about the resolution in the spatial data with VTRs is the implementation of the tracker data will eventually let us answer questions like this with much better confidence, because it is going to have that better precision to be able to address specific areas of interest. I will happily answer any questions anyone has.

CHAIR KELIHER: Thank you, Tracy, that was an excellent report. Before we consider taking any action, does anybody have any questions for Tracy? Mr. Borden.

MR. DAVID V. BORDEN: Excellent presentation, Tracy, fine job as always. I guess my question is, is there a divergence between the tracker data that the Commonwealth has, since they implemented trackers early, and the VTRs?

DR. PUGH: We did look briefly at the tracker data that is existing. As Dave mentioned, it's only

Massachusetts that had more than essentially a couple of months of data to look at. There are a number of issues with the first year of the data being as implemented. There were some issues with the devices and things. But there is nothing in the tracker data that essentially said something different from what the VTR data are showing us. The tracker data that we do have available corroborates VTR data.

MR. BORDEN: Yes, follow up, Mr. Chairman. It's a process question. As I understand the time sequence, I'm sitting next to the Chair of the New England Council. The Council wasn't going to finalize its position until later in the summer. We have a summer meeting that takes place prior to that. In other words, there is some uncertainty as to which of these alternatives, two alternatives the Council is going to utilize. The question is, is the intent here to offer some general comments on this proposal at this time, and then get into the specifics at the summer meeting, or are we going to try to do it all at this meeting?

CHAIR KELIHER: Yes, I think from the timing with the Council meeting, I think it would be more appropriate for this Board to consider making some final comments on this for the Council to have under their consideration. Eric Reid.

MR. ERIC REID: Yes, Aloha to you, Mr. Chair, and thank you. At this point what happened in New England a couple weeks ago is we did receive a summary report from Ms. Kerns, but we didn't have this final report yet. We are scheduled to have an update at the end of June in our Council meeting, which is the end of June.

But there will be some amount of work done before then. There will be an update, and final action is proposed for September. But if you wait until your summer meeting, what is the point of waiting? I think I guess that is my question to you, Mr. Chair. You know you have the information available to you now. That is not going to change. That is my two cents. The report you did was actually really awesome, and your timing was perfect. Thank you.

CHAIR KELIHER: Thank you, Chairman Reid. I concur with that. I mean I think we do have a very excellent report from the TC on this topic, and I think what we need to consider finalizing a letter at this point in time to send to the Council. But before we get to that point, I've got to see, I know I've got Steve Train and then Roy Miller.

MR. TRAIN: Tracy, I'm sure you've got anecdotal data from other stuff out there. This is what you were tasked to study and I'm getting numbers like 57 percent, mostly large lobsters' 57 percent of egg bearing, 88 percent are female in one area, 34 percent egg bearing. Larger lobsters' 34.3 percent that were hit by a drag the females died; 46 percent of males died. Is this typical population data out there, or does this area just have a lot more females with eggs?

DR. PUGH: We think the Georges Bank in general has a relatively unique population of relatively large, and the egg bearing females that we see the seasonality for that. If you look in the middle of summer after they have all hatched, you can have a very low proportions of egg bearing females. But if you look in the winter time or in the fall after they've spawned, and while they are carrying those eggs, it's going to be a little high.

To some extent the timing of the sampling dictates what we're really seeing with a portion of egg bearing females. We do think that this is an important area for egg bearing females and large sizes. I think the available data out there, we were a little bit honestly lucky, in that CFF has such an extensive presence out there with their scallop dredge surveys that we could look at that data.

The Federal Observer data was limited to just those two years, three years, 2013, '14, and '15 that we had available to look at. Then the CFRF study fleet provides a really important data source for us to be able to use out there. It's not necessarily a data rich area, but we do have these pieces of information. Does that address your question?

MR. TRAIN: I think mostly, yes. It sounds like pretty much both the Georges were like that, but this might be a little heavier maybe, because of the time of year. Is that all just based on what you said?

DR. PUGH: Yes, there is a little bit of a timing component to it, but yes, we do think up on top of Georges Bank is a relatively unique population of lobsters.

CHAIR KELIHER: Follow up.

MR. TRAIN: You said it's a relatively unique, but didn't we just determine a few years ago that Georges Bank and the Gulf of Maine are the same lobster stock?

DR. PUGH: Yes, the 2015 stock assessment did tie the Georges Bank Stock to the Gulf of Maine stock. That was based largely on looking at some of the trawl survey indices and looking at the exchange of lobsters on top of the Bank and down off into the deeper water, the seasonality of that exchange.

Then there is older tagging data, and then there is newer tagging data. We're going to look at that really closely with this upcoming stock assessment, to revisit that linkage. But it does, so it's unique in that there are very large lobsters out there. It's not necessarily disconnected from the Gulf of Maine stock as a whole. That is something that we are going to take another close look at with this stock assessment.

CHAIR KELIHER: Roy Miller.

MR. ROY W. MILLER: I was wondering if you would allow the opinion of someone well from the south of this fishery area. In the documents that were provided, it isn't at all clear to me whether this fishery is going to happen, and we're just providing guidance on where, how and when, as opposed to perhaps this fishery not taking place in the area for all the reasons, we've already heard concerning ovigerous females, et cetera. Some guidance for the rest of us would be beneficial, Mr. Chairman, or perhaps Tracy, if you could enlighten us.

CHAIR KELIHER: Presently the New England Fisheries Management Council is considering four areas for considering opening on the northern edge for scallop fishing. They have been working to narrow those areas down within their documentation. But the idea here is to provide additional guidance to the Council on whether those areas should be opened or not, or modified. It will ultimately be a New England Council action. I'll turn to Chairman Reid, and see if he would like to add to that.

MR. REID: Exactly, at our June meeting we eliminated two of the four areas that have been under consideration. The two that are left, in one of your charts you showed a little piece of a carrot of really complex bottom. Both the areas that are still on the table are generally speaking, north of that complex bottom out into deeper water outside of 55/80 fathoms of water, out in deeper water. One of the areas, Area 2, is completely enclosed in Area 4. Just so you know. We're down to two areas, plus the option of course is status quo, no action. That is also, it's not a foregone conclusion, all right, but we're working on it.

CHAIR KELIHER: Roy, does that answer your question?

MR. MILLER: It provides me some guidance, if not total comfort anyway.

CHAIR KELIHER: Before I go to Jeff Kaelin, Toni Kerns had, okay, Jeff.

MR. JEFF KAELIN: I've been involved in this process, since I was on the Mid-Atlantic Council. I'm still a Habitat advisor, and I think there is some real opportunity to go into at least one of the two areas that were left on the table at the Council meeting in June. My question is, Tracy, appreciate the presentation.

I don't think you've done the work yet, but it seems to me that what we need is some kind of a relative comparison about gear impact mortality outside of that area. Generally, in the scallop gear impacts for lobsters, bottom trawl impact for lobsters, gear damage. Compared to what you've just showed us on Georges, I really think that we need a comparative.

We need to compare the potential damage on Georges, the narrow areas that we want to go into for scalloping up there relative to the rest of the fisheries, both the bottom trawl and the scallop fisheries relative to gear mortality, so we would have some kind of a comparison to make to determine relative risk and so forth. I want to make that point. That might be very complex, but it seems to me that kind of information would be very important.

DR. PUGH: Yes, so just a follow up on that. With the CFF data available, the scallop dredge surveys that they were doing, some of those took place on top of the Bank, and some of them were taking place in deeper waters off the Bank. We pooled the data for what I showed you here. We did look at on and off the Bank.

I don't remember seeing a difference, in terms of where the gear was towing on the Bank versus off the Bank, in terms of the damages. We can dig a little bit further into that. As far as I know, I can't think of any, certainly nothing recent or nothing offshore for other mobile gear types that would have damage assessments or damage rates.

I think that there is probably some very old information inshore with mobile gear, and I'm squinting, because I can't really remember for sure. I want to say it was in the eighties. But inshore is going to be smaller lobsters, a little bit different habitat. We don't have a lot of comparative stuff to work with. But we can dig a little bit more into the CFF data if you would like us to do that.

MR. KAELIN: Yes, thank you. I was thinking particularly around the rest of Georges or the southern and to the western as an area, but it's not a perfect world. We may not be able to make that comparison. But it does strike me as important, just in terms of relative risk and going on to Georges for scallop fish. Thank you for considering that anyway.

CHAIR KELIHER: Dennis, did you have your hand up? No. Toni.

MS. TONI KERNS: I think one of the things, and thank you, Tracy for this very thorough report from the TC. One thing that we did not ask the TC to do was to provide any economic information on what potential impacts would be, and I think that will be really important for the Council to have that information, as they are contemplating their decision.

Making fact data is important to have as they develop their document, so that information would be needed prior to our August meeting, and as soon as possible. Because VTRs were not fully implemented until April 1, we are not going to be able to get economic data from, well the VTR reports aren't going to have economic data, so then you have to go to the Dealer Reports, and the Dealer Reports won't be tied to the VTRs until just now, most likely.

We're going to have to piecemeal together any economic data that we need, but it would be helpful for the Board to direct us to do that as we are providing information over to the Council to the best of our ability.

We may need the states to help us piecemeal that together with the data that you all have, to provide the best information possible.

CHAIR KELIHER: Okay, we had a complicated issue even more complicated, thanks, Toni, appreciate that. Any additional questions for Tracy? Seeing no additional comments for Tracy.

CONSIDER SENDING COMMENTS TO NEW ENGLAND FISHERY MANAGEMENT COUNCIL ON SCALLOP ACTION

CHAIR KELIHER: Would anybody like to make any motions here? David Borden.

MR. BORDEN: I don't want to make a motion yet, but it seems like we first have to decide is whether or not we want to submit a letter, and I assume we do. To me the process should be, we should raise issues and then the staff can have the luxury of a little bit of time to put together a letter and circulate it to the Board, to ensure that it reflects the sentiment that's being expressed. That is the gist of the process that you envision.

CHAIR KELIHER: Eric Reid, if I could direct a question to you, just from a timing perspective. If a letter was going to be sent, what do you envision, as far as the deadline? What is the latest we could get a letter to the Council to have it be impactful?

MR. REID: Well, honestly, Mr. Chairman, it would really depend on when the two committees will meet, the Scallop Committee and the Habitat Committee's will meet to consider any additional information. Obviously, we'll have this report to consider, but if there is some other something from the Commission. The longer it takes you to get that in play, the less likely it is that it will be really considered. We'll obviously consider this final report in our decision-making process. But the report speaks for itself.

CHAIR KELIHER: Dan McKiernan.

MR. McKIERNAN: Just in terms of process. I think it would be valuable if the Board also cleared the TC to maybe submit whatever future work product is going to happen to the Council staff. Because if we have to wait to receive a report in August, before we hand it on. I'm guessing that there are some time sensitive aspects to this, or sequencing challenge, where there was request to get this report to a Council before we had even seen it. But it is obvious to me that that is important, in order to get this data incorporated into Council decision making. Whatever we do, I think we should allow the TC, maybe with Executive Director or Board Chair oversight, to get this data into the process.

CHAIR KELIHER: I think the additional data that we might need, if we did want to pull together economic data. Obviously, I think we would need some TC work and some work from the states, as Toni said. But I think to where Dave Borden was going, the idea of staff potentially starting the drafting process on a letter, if that is where you were going. I'll maybe ask a question to the Board. Are there any objections to sending a letter outlining the concerns that have been raised with the data that the TC has provided us? Alli Murphy.

MS. ALLISON MURPHY: I'm really appreciative of the work that the Technical Committee has done, and certainly fully support information sharing. I just abstain from any opinions that are input or recommendations that the Board wants to make to the Council. Thank you.

CHAIR KELIHER: Thanks for that clarity, Alli. Cheri.

MS. CHERI PATTERSON: Just a question on what sort of data we would probably like to see analyzed, not just the landings aspect, but also what the cost of the damage would be to lobsters if mobile gear was going through there. It would be the potential resource there, not just what is being removed for landings.

CHAIR KELIHER: Steve Train.

MR. TRAIN: I would object to a letter going out that says anything other than, Hell, no! I mean we've got broodstock lobsters out there that have more eggs, healthier eggs, more likely of sustainability than part of a stock that is the same stock that we're trying to manage that we've got a room full of people, and a room full of people online, because they are worried about the management of a stock that is stressed. I don't know why we would worry about sending a letter.

Anything that doesn't say, Hell, no, we're wasting our time.

CHAIR KELIHER: Thank you for that clarity, Mr. Train. Dave Borden.

MR. BORDEN: I'll make this brief. My understanding that some of the data that is available is confidential and can't be released. The Technical Committee is in, I think the position they can't use that data and put that data into any kind of document that we would submit. The one option I think that the Commission has is, it can go to those individuals that submitted the confidential data, and ask them whether or not they will agree to release it so we can use it.

I think that step should be included in the process. We need to use the best data that we have to characterize the problem, and if that requires us to get special permission from the people that submitted the data, then I think we should do that. Then I've got a general statement I would like to make after you get to that point.

CHAIR KELIHER: Are there any other comments on this? Doug Grout.

MR. DOUGLAS E. GROUT: Yes, I think our process of developing the comments is a good one. But I agree with Steve that the major issue here that we've seen, not just from this most recent data that the TC had put up, but we saw information from a previous action that indicated there was a large number of egg-bearing females on the Bank during the summer and fall, and that the impact by scallop dredgers, which is what this action is looking at providing access to, was very significant.

Again, shown here by the most recent data. I don't think we need to compare it with what it looks like in other mobile gears. We know that there is some past information on that. I think the only refinement we might have to look at is what are the specific areas that are now still under consideration.

If any of those areas does have, the locations have some mitigating impact to what, there aren't that many females in those particular areas, or whether they still are impacted. To me, the key thing here is the impact to ovigerous females up there, which seem to be in high concentration.

CHAIR KELIHER: I tend to agree. The tasking motion for the TC was something that I put on the table, and it really kind of aligned with the concerns that you're raising now. I think where the TC has given us a very good report to base the development of a letter on. Then I think, to Dan McKiernan's point.

If there is any additional information that may come from the TC at a later date, we could either add to with some general discretion of the Board Chair and the Director. I'm going to turn it over to Dave Borden for a statement and maybe we could get to a motion, or at least a consensus statement.

MR. BORDEN: I think we're on the horns of a dilemma on this issue. I totally agree with the statement that Commissioner Train just made, and I won't be as eloquent. But the problem is, this Commission has the responsibility to kind of set the direction for lobster management, and this is a billion-dollar fishery that employs probably 30,000 people up and down the coast.

The inshore stock and the offshore stock are connected. Technically we have an excellent Technical Committee, the best in my entire career, I would point out. That stock is all considered one stock, so we are dealing with one stock. On one hand we are basically telling the inshore fishermen, you have to sacrifice, you have to increase spawning stock biomass on the inshore areas.

You are going to lose some landings, and I've been a supporter of that, because I want to buffer the coastal communities, particularly up in eastern Maine that are 90 percent reliant on this resource. A 50 percent decline in the resource is a disaster. We might not be able to stop it, but one thing we can do, having been a state fishery director during

the collapse of the Southern New England stock is, we didn't take action soon enough.

I've said this repeatedly, you have to get out in front of this issue. Pat, some action is required. On the other hand, the New England Council is primarily responsible for fitting the direction on scallops, and they've got to weigh those impacts. The damage rates that Tracy and the technical folks indicated are substantial. They are nothing for us to turn a blind eye to in the process. I think we have to send a pretty forceful letter to the Commission and raise those types of concerns. One of the concerns, and I'm going back to 2002, when I was a Council member. I got off the Council in 2004, but in 2002 NOAA approved the Habitat Amendment, and they disapproved certain parts of that Habitat Amendment.

If my memory is correct, they specifically required that if Habitat was going to be negatively affected that there had to be mitigation stuff proposed as part of that process. Now that is 20 years ago, my memory may be wrong. But I think that NOAA General Counsel had to clearly look at the provisions they included in the Habitat approval, and insist that those conditions on mitigation be met on this.

From my perspective, if it's going to be a scallop fishery, I would like scallopers, and I totally understand the logic for why they want to get in there. If there is going to be a scallop fishery, we have to do something to mitigate the negative consequences on the lobster stock. Otherwise, it makes absolutely no sense to tell the inshore guys, you've got to sacrifice and raise the gauge in order to increase SSB so somebody else can kill it in another area.

CHAIR KELIHER: Jeff Kaelin, we are constrained for time, so I will ask you to make a quick comment or question, and then I'm going to come back. You've got your hand up too, Ray. You've got to raise it high so I can see it.

MR. KAELIN: Mitigation is on the table. That is definitely one of the issues that the scallop industry is going to have to do with that initiative up there. But I'm looking at the data, and I think April, May, June, July, November, December. There is opportunity to go in that area, that specific area that is still on the table.

I have a real problem with a Hell, no, personally, based on my years of experience up there on Georges and so forth. I think that is an unfair characterization of the data, frankly. I think there is an opportunity to go in there with minimal impact during the spring. That is where I'm coming from.

CHAIR KELIHER: Ray Kane.

MR. RAYMOND W. KANE: Thank you, Tracy for an excellent presentation. Hearing the conservation, I concur with other Commission members here with what Steve Train had to say, with what Dave Borden had to say. I think in this letter from the Council, it should be mentioned, as Jeff Kaelin just spoke to, it should be a time area closure, you know December through March, have at it.

The big vessels, you know they are going to come back with a safety issue. But if there are scallops there, harvestable scallops, give them access, but in a time when it's not going to impact our lobster industry. I mean we do manage lobsters, right, this table? ASMFC manages lobster, and I think we have to let the Council know right off that it's out of the question a year round fishery out there. They have to start thinking much smaller, like three or four months of the year.

CHAIR KELIHER: Dennis.

MR. DENNIS ABBOTT: I really appreciated Steve Train's comment, because I like the plain-spoken word, Hell, no. You know there is a big difference in sending our concern to the Council, but I think we either should be opposing this measure or supporting it. You know after listening to Tracy talk about the damage there, it was really an eye opener for someone like me.

I would like to see us as a Board take a vote, have a motion and take a vote on whether we want to, say whether the Atlantic States Marine Fisheries Commission Lobster Board is in favor of or opposed to. I think we should know where the Board stands. I would really like to see a vote taken on which way we want to go, and as Steve said, you know he said it Hell, no. I think that is the proper way to go.

CHAIR KELIHER: There is no motion on the table. We do have a very detailed Technical Committee report that speaks to the data. It speaks to time and area issues associated with it. We're here, as was said by Mr. Kane, to give our comments as it pertains to the impact to the lobster resource.

It would be appropriate for us to send a letter to that point. If anyone would like to make a motion we can entertain it, if not, I think we need to by consensus, have staff draft a letter that includes the details from the Technical Committee report, and if we have time, do some additional outreach to the states on what that economic impact would be. That would give the Council all of the information.

They would have that Technical Committee report, they would have that data all around. The economics of the situation for them to then use for final consideration in front of that management body. If nobody wants to make a motion, I would ask if there is consensus with that approach that I just laid out. Mr. Reid.

MR. REID: Absent of a motion and any consensus statement, I am the Chairman of the New England Council and I am also the Chairman of the Habitat Committee, so I am going to abstain on whatever it is you are going to do here.

CHAIR KELIHER: Thank you, Mr. Reid. Toni.

MS. KERNS: Just as an FYI. We've already shared the report with Council staff, so they do have the report already.

CHAIR KELIHER: They do.

MS. KERNS: Yes.

CHAIR KELIHER: Is there consensus on developing a letter that highlights the concerns within the TC report? The letter could be drafted for my review and the Executive Director's review, and we would then send it to the Council, once we have the additional economic information from the state. Do we have consensus on that approach? Is there any opposition to that approach? Seeing none; we will develop a letter based on the information that we have, and then try to include that economic information that Toni raised. Thank you very much.

PLAN DEVELOPMENT TEAM REPORT ON CONSERVATION MEASURES FOR LOBSTER CONSERVATION MANAGEMENT AREAS 2 AND 3

CHAIR KELIHER: We're going to move right along to Item Number 6. I know Caitlin can probably be a little briefer than I had hoped on the last agenda item, so the Plan Development Team report on conservation measures for Areas 2 and 3. Caitlin.

MS. CAITLIN STARKS: I will try to be brief. Just for the background on this topic. This is related to the 2023 NOAA Interim Rule to implement the measures from Addenda XXI and XXII. These two addenda were approved in 2013, and they included aggregate ownership cap in LCMAs 2 and 3, and maximum trap cap reductions in LCMA 3.

At that time these measures were intended to scale the southern New England Fishery to the size of the stock, which had been found depleted in the last stock assessment. Then given that ten-year delay between 2013 and the federal implementation of these measures in Addenda XXI and XXII, the Board and industry have expressed concerns that in that time there have been some significant changes in the fishery.

As a result, the Board thought it was warranted to investigate this further, and they tasked the PDT to review the conservation measures that were originally set in Addenda XXI and XXII, and to come up with some recommendations for alternative

measures to achieve the same types of conservation measures, inclusive of input from the Lobster Conservation Management Team for Area 2 and Area 3 by the spring meeting.

REPORTS FROM LOBSTER CONSERVATION MANAGEMENT TEAMS 2 AND 3

MS. STARKS: I will note here that because the LCMT for Area 3 has not met yet, the PDT was unable to provide recommendations that considered LCMT input for this meeting. But the PDT did meet twice in April, and the discussions that the PDT has had focused mainly on gathering information that could help characterize the changes that have occurred in the lobster fishery in southern New England since 2013.

The PDT discussed the number of permits issued by LCMA and maximum allocation, number of traps fished, development of the Jonah Crab fishery, and the shift of Area 3 vessels from southern New England to fishing in the Gulf of Maine and Georges Bank stock, as issues that need to be quantified to better understand how the fishery has changed in this time period.

With the data that were available to the PDT before now, we have data from New Hampshire, Massachusetts and Rhode Island, and also our federal permits, and the PDT was able to put that together in time for this meeting. These are some of the key takeaways that the PDT noted with these data.

Between 2010 and 2023, there was a 42 percent reduction in the LCMA 2 maximum allocation. It should be noted that not all jurisdictions had data available for this timeframe. There was a 38 percent reduction in the LCMA 2 maximum traps fished between 2013 and 2022. There was a 28 percent reduction in the LCMA 3 allocation between 2013 and 2023.

Then a 4.3 percent reduction in the LCMA 3 max traps fished between 2013 and 2022, but that was relatively steady over that time period. Moving forward, the PDT has identified some gaps in the data that they would like to rebuild, in order to complete this task. That includes federal LCMA 3 allocation data for 2008 forward. Some missing LCMA 2 allocation data for the years of 2011 to 2015, and the LCMA 3 permit and trap data separated out by stock area. With the full datasets, the PDT plans to look into overall reductions in maximum traps fished, changes in the ratio of max traps fished to allocations over time, and reductions in traps actively fished, and then quantifying the change in Jonah crab directed effort in southern New England.

Once both the LCMTs have met and provided some recommendations as well for achieving the conservation goals from Addenda XXI and XXII, the PDT can take that and put it into consideration as well. In addition, the PDT also is looking for some additional guidance from the Board to help them focus the recommendation.

The PDT felt the language of the Addenda XXI and XXII objectives is a little bit vague, so it would be helpful for the Board to weigh in on what metrics should be used to evaluate this idea of scaling the fishery. For example, should we be looking at total traps or allocations in proportion to relative abundance of the stock, or number of trap hauls?

Additionally, the PDT is looking for input on what specific objectives the PDTs recommendation should aim to achieve, whether that is eliminating latent effort or achieving long term reductions in traps fished, or preventing increases in effort from current levels or something else. These are some things the PDT would like some input on from the Board today. Before we go back to the Board for discussion, I believe we have a report from the LCMT 2 meeting that took place this month.

CHAIR KELIHER: Conor McManus.

DR. CONOR McMANUS: I'll be brief, because there is a memo or report in your materials as well, outlining the meeting that we had on April 9, regarding the topic for LCMT 2. Many of the comments that were made were similar to those

that have been expressed in other avenues, and other workshops we've held as of late.

But just in brief, the LCMT for Area 2 first commented on the sunset clause of May 1, 2022, and that they would be interested in trying to change that or remove it entirely, to try and enhance flexibility for the fishery. Much of the comments today have been around the topic of how much the lobster fishery has changed in southern New England particularly in this area.

It is imperative to try and provide enhanced flexibility where possible, of which changing the sunset clause to something different or removing it all together would be a step in that direction. There was a similar sentiment of that and justification for discussing the trap limit for federal permit holders with two permits, and trying to allow for that second permit to have 800 traps and not be capped at whatever they were at the date of that sunset date.

There was again, aligning with the idea of business flexibility for this fishery that has changed a lot, but also preparing businesses if there were a further management action that were surrounding trap reductions as there have been in previous years for this stock. It was noted that in order to even build a permit back up with traps that it would be necessary oftentimes to buy multiple permits to try and build to some number, given the current trap numbers for permits federally right now. To try and enhance that flexibility again, there was discussion about whether two permits or three permits, or something where there is a trap limit or is the unit traps or permits now, in terms of how we think about federal permit holders currently with this element.

There was a lot of discussion about thinking of how the fishery will look moving forward, and their recommendations for how to think about those elements. There were additional comments related to ultimately the alignment between state and federal waters licensed individuals. There was sentiment from LCMT 2 members to have state license holders and federal permit holders be aligned in this discussion.

There was a final request to try and solidify where possible everywhere, what is meant by SD, which is something you've all discussed at length currently. With that I am happy to take any questions. But again, the brief report, I will note that the LCMT 2 plans to meet again to further refine their opinions or clear request or guidance to the Board.

CHAIR KELIHER: Based on the report from Caitlin and additional information from Conor, it is certainly clear that some additional information is going to be needed, and guidance from the Board. Caitlin, do you want to put that slide up for where you need additional Board guidance? I'm just going to kind of wing it here a little bit.

If there are any questions or comments for either Caitlin or Conor, or if there is any additional guidance that the Board would like to take from, I'm open for any of that right now. Do we have any hands? Clearly additional guidance is being asked for here. Okay, I am not sure how we are going to move forward without additional guidance on this particular topic. They've met on this issue, there seems to be some, we do have a hand. Dan McKiernan, thank you for bailing me out.

MR. McKIERNAN: The Area 3 LCMT didn't meet, and I want to take full blame for that, or credit. But I really think the PDT is on the right track, in terms of describing through analysis of effort data where we are at. I'm really comfortable presenting some of those data back to Area 2. For example, we had a conversation with Area 2 LCMT, without them seeing those data. I just think this needs a little bit more time.

When they finish with the Area 3 data by obtaining it from the other states, or filling the gaps, I think we're going to have a much more informed conversation with the Area 3 LCMT. I think that is the key, is we need to look at what the measures in Addendum XXI and XXII are trying to

accomplish. What the measures in the federal proposals are trying to accomplish, and line that up with the actual changes and true effort that have transpired over the last 12 years. I don't know if we have to answer these three questions today.

I think it would be valuable to see the final report coming out of the PDT. Because as I said to the LCMT 2 Team, I said take your time and get this right, because we don't want to have another situation where, for example, we may pass an addendum. NMFS may pause, because it doesn't match up with either their standards or other rulemaking. I would ask the Board to let this bake some more, at least until the August meeting, and maybe we can take a crack at some of those questions then, once the data are all analyzed.

CHAIR KELIHER: Just one question. A lot of your comments were focused on LCMT 2. Do you plan on calling Area 3 into?

MR. McKIERNAN: Absolutely. We composed the LCMT. It was so dated, many of the members that were listed on that had left the fishery. We were under some timelines to do that, and we didn't get that done. But the findings that you've seen go up on the screen here, I think need to be digested by the Area 3 LCMT, so absolutely, yes. Soon after this meeting we will be putting it together.

CHAIR KELIHER: Thank you, Dan. Dave Borden.

MR. BORDEN: This will be brief. I agree with what Dan just said. Just so everybody understands. This is going to take a while to work on a number of meetings I think are going to have to take place. The Area 2 meeting, I thought went very well. But even there, and in their case, they implemented what the Commission required.

In their case, they still need to have a couple of meetings with discussion about the component of it that relates to where we go in the future, what types of regulations we want in the future, in terms of NOAA proposed one set of regulations, and obviously we would end up with a different set of regulations if we followed some of those suggestions. That has to be developed over a longer discussion timeline.

In the case of Area 3, having been very involved in that for almost a decade. The issues there are far more complex than they are in Area 2, so it's just going to take a while to work through this. I agree with the suggestion to not pick any of these options at this time, and just allow the process to do what it does best, work through the issues, then bring back updates at every meeting.

CHAIR KELIHER: I appreciate both yours and Dan's comments. We certainly can give the LCMTs some more time. But I Think Caitlin would like to get some clarification.

MS. STARKS: Yes, thank you, Mr. Chair. Jut to try and better understand what you're looking for from the PDT by August meeting. We are going to pool all those data together that I had identified and look at those. In terms of making recommendations for alternative measures, which was part of the original task, is that something that you would like us to wait on until after we come back with a full set of data, and to take away from that?

MR. McKIERNAN: Yes.

CHAIR KELIHER: I've got Cheri and then Steve Train.

MS. PATTERSON: I just would like to express a little bit of worry here. I think we still need to move pretty quickly on this if we're going to be enacting this in 2025. I just would hate to see too much delay continue to happen. Not to say I disagree with what we're discussing right now. I agree we need to spend some more time with the LCMTs, but we need to move quickly.

CHAIR KELIHER: Steve.

MR. TRAIN: In response to what specific objectives. The elimination of latent effort has been a touchy subject for fishermen. A lot of us

will move off the product if it's not profitable. We know we've got the permit; we can do it later. Then if you don't use it too much, people start talking about taking it away from you.

They jump back in to make sure they show a history, so we actually get increase in effort, because you are talking about taking it away. You've got to be really careful in the management of that. People that aren't doing something aren't a problem yet. I'm not saying it's not a problem in the big picture. You've got to be careful how you tackle that one.

CHAIR KELIHER: Okay, I think with staff getting the clarity that they needed, at least from a Plan Development standpoint. We'll let the Area 2 and Area 3 Teams continue their work, and then we'll come back to this at a later meeting. Thank you for that.

ELECT VICE-CHAIR

CHAIR KELIHER: That moves us to Item Number 7, which is the election of a Vice-Chair.

Before I do that, I was remiss at the beginning of the meeting, and I was remiss at the end of our last Board meeting to thank Jason McNamee for Chairing this Board for two years through some challenging conversation. Jason, I do want to recognize you for the work that you did, so thank you very much for that. (Applause) He would rather have cash. We have Dave Borden, Dan McKiernan, sorry.

MR. McKIERNAN: **I had a nomination for the Vice-Chair, it would be Renee Zobel from the great state of New Hampshire**.

CHAIR KELIHER: Nomination from Dan, and then second from Eric Reid, and that was for Renee Zobel, correct? Is there any discussion on the motion for Renee Zobel to be the Vice-Chair? **Is there any opposition to Renee being Vice-Chair**? Since she's not here, she's listening. She is hiding**. With no objection, Renee Zobel is the Vice-Chair of the Lobster Board**. Congratulations! (Applause).

OTHER BUSINESS

CHAIR KELIHER: That moves us to other items that were not on the agenda. We have three issues. The first one Steve Train, you had some comments?

CONSIDER INVESTIGATING MODIFICATIONS TO VESSEL TRACKING REQUIREMENTS

MR. TRAIN: I believe there is a motion ready. This is an issue that came up during public comment earlier today and it was something that we did a while back, and I spoke against it. Kristan Porter said it very succinctly today. Maine fishermen don't just use their boats for work. We're like the plumber, the electrician that has a vehicle and we still have to take it to the store or to a funeral on the way. They might have another car, but we can't use two boats. Our boat is our vehicle.

This current tracking requirement is way more than is required and necessary to get the data that people want. I **move to task Addendum XXIV Vessel Tracking Implementation Workgroup with the input from the LEC to investigate modifications to the 24/7 vessel tracking requirements, which will still ensure monitoring of the fishing activity, while acknowledging that fishermen also use their boats for personal non-fishing reasons. This should include a review of the existing processes for when VMS devices can be turned off**. I would appreciate a second.

CHAIR KELIHER: Second by Dave Borden. Any discussion on the motion? Dennis Abbott.

MR. ABBOTT: I support Steve's motion. During the initial vote on this Addendum XXIV, I had reservations about it, because I do think it is a bit of an invasion of privacy to track people when they are not using their boats, and for that reason I was opposed to it then, as Steve was, and I'm opposed to it now. I understand the difficulties

and the problems that might arise. But I think that looking into the possibility of doing something about this, you know is worth an effort on someone's part.

CHAIR KELIHER: Are there any other comments on the motion? Steve Train.

MR. TRAIN: I'm not asking at this point on a vote to overturn anything, I would just like it investigated, to see if we can get a tool that works that we don't have to have it on all the time.

CHAIR KELIHER: Thank you for that clarity, Steve. Seeing no additional comments, is there any objections to the motion that is on the board? I'm going to just quickly read it into the record. Move to task that Addendum XXIV Vessel Tracking Implementation Working Group, with the input form the LEC. To investigate modifications to the 24/7 vessel tracking requirement, which still ensures the monitoring of fishing activity, while acknowledging that fishermen also use boats for personal non-fishing reasons. This should include a review of existing processes for when VMS devices can be turned off, with a motion by Mr. Train, seconded by Mr. Borden. Back to the Board. **Are there any objections to this motion? Seeing no objections, the motion passes**.

CONSIDER TAKE OF LOBSTER BY NON-TRAP GEAR

CHAIR KELIHER: I'm going to now go to Dan McKiernan who had an item for take of lobster by non-trap gear.

MR. McKIERNAN: Just a brief update. At the annual weekend at the Mass Lobstermen's Association, there was a lot of angst regarding what is perceived as "targeting of lobsters by mobile gear" within the 100 count per day. Typical March prices are high. This last March price I think was an all time high.

We investigated it, and what we discovered is that under the federal regulations, the ASMFC enacted rules, which is the 100 count per day, not to exceed 500 for a trip five days or longer, is probably being complied with. But what is happening is vessels are unloading their lobsters on the fifth day, and then resuming fishing on a trip that is longer than five days.

That is one issue. It is not illegal, but there appears to be increased targeting at a time when we're asking the trap fisheries to reduce their exploitation of lobsters. I just want to mention to the Board that I'm working on this at the state level. Another thing that we've discovered is when we examined landings data, we see pounds, yet the rule is in a number of lobsters. It might be appropriate for the Board down the road to consider a slight modification to that 100-count rule, which resides in Addendum III, or Amendment 3, I believe. It might be wise for us to modify that to maybe a poundage equivalent, just for purposes of examining for compliance, but that would be down the road. But there is a lot of anxiety at home about this, especially around the outer Cape area, driven in part because lobstermen are required to remove all their gear for three and a half months, which gives the mobile gear fleet kind of a clear lane to fish in that area. Just a heads up on that. I'll be coming back to the Board, probably in August with some more report on that.

CHAIR KELIHER: I appreciate that. Any comments on this particular issue? We'll wait, Dan, for your report back to the Board on that issue. Are there any additional items before I go back to some of the public comment that was made?

REFLECT ON ADDENDUM XXVII AND CONSIDER IMPLICATIONS FOR INTERNATIONAL TRADE

CHAIR KELIHER: I want to acknowledge and thank those that took the time to bring their concerns to the Lobster Board today.

It is unfortunate that we are in a situation where so many from the industry are just now speaking out on the issue of resiliency. That said though, it's very clear that the realities of the change have raised some very serious concerns with the industry as a whole. When I made the motion in

2017, to initiate Addendum XXVII, it was my attempt to ensure that the most valuable single species fishery in the country would be resilient in the face of a changing environment, and we avoid what happened in southern New England.

After several delays to deal with right whales, we finally passed Addendum XXVII, and I believe that passage was precedent setting. It is the Commission's very first attempt to be proactive with a fishery that is still very relatively healthy. I stand behind the approach, but I question now if we missed something.

Our focus to work only with the data around sustainability seems to have missed the mark. We missed engaging the LCMTs, we missed thinking more about the economic impacts and the flow of lobster with Canada. As we all know, our normal fisheries management actions are reactionary to declining stocks.

In those instances, it is very difficult to take those socioeconomic issues into account. But I think there is a lesson to be learned here. When we are being proactive, we must take the time to not only understand the science, but also explore and understand the unintended consequences. I would propose we take the following steps to gather some additional information, to determine if we need to alter the course.

If we go back and take the time to consider the comments we've heard today, as well as what were sent in the supplemental materials. We continue to engage Canada. The FO has begun extensive discussions with their harvesters, dealers and processors, and they have areas within the fishery that are considering changes to their gauge right now.

For the lobster fishery, LFA 34 is one very large area that is making that consideration. We also need to better understand how Addendum XXX will relate to this, so we need to finish compiling the public comments on XXX, to understand how that relates or complicates the decisions that we've made for Addendum XXVII. We also need the TC to compile and combine the data for the 2023 recruit indices, to see how that has changed the three-year running average. Then with this information, I do believe that we need to consider holding an out of cycle Board meeting to determine if we should reconsider our actions. I am not talking about kicking the can down the road indefinitely when I bring this up. I am still squarely behind taking action that ensures that we have resiliency in place for this fishery. Again, this is the single most valuable species we have in this country. It is certainly, I can't express what this fishery means to the state of Maine and our coastal communities.

I don't want anybody sitting here around the room thinking that I am looking for just an indefinite pause. I firmly believe we must have measures in place that ensures this stock is resilient for future generations. With that, I would like to go back to the Board to see if anybody has any additional thoughts. Again, I am not asking for action now. I am asking us to consider what those unintended consequences are for a very precedent setting action. Does any member of the Board have any additional comments? Steve Train and then Dave Borden.

MR. TRAIN: I have a question, and I spend most of my time on a boat and not in offices, so I'm not sure what we are allowed to do once we have an amendment or an addendum in. But we have a timeline and some tools. I think it was brought up by the public speakers earlier. I'm sorry, thank you, Mr. Chair, come back to that. Can we rearrange any of that? Like can we go to the vent first so that some of the other stuff doesn't apply right away, and then go up on the measure, and still stay within what we've done?

CHAIR KELIHER: I would turn to staff, but I believe we would have to go through an addendum process in order to do that.

MS. KERNS: Any changes to what are in the compliance measures of that plan would need a new addendum to make a change to it.

CHAIR KELIHER: Thank you, Toni, Dave Borden.

MR. BORDEN: What process do you anticipate following in order to accomplish what you're characterizing? We're going to go back and look at some of these points that are made, does that mean another meeting, a special meeting? How do you intend to handle that?

MR. KELIHER: I think in particular, besides going back and understanding what the economic, these unintended economic consequences are, I think we need to understand more what is going to happen in Canada. There is consideration with LFA 34 for increasing their gauge. There is consideration being made in other areas of Canada, in particular the PEI area, where they have already done one small gauge increase.

I talked with DFO on Wednesday of last week. I had very good conversation. We're in constant contact, in regards to elver situation, so we took the time to talk about the lobster issues on both sides of the border. They are now very engaged with their dealers and processors, more so than they have been, certainly more so than they had been when we had a subcommittee talk to them.

I think they are very concerned, in particular about that discrepancy, but also the fact that a Mitchell Amendment and being consistent between the Plan in the Mitchell Amendment could stop the bonding of lobsters coming in to be flown out of our country to other countries, in particular China, where a lot of product comes through the U.S. now. There is additional information I think that has been coming up through their conversations. Giving them time to see where they are in June or early July, could be the impetus for us to then consider all of the other information, to then hold a special board meeting to consider if we want to do any kind of reconsideration, and move forward with an additional addendum to, as Mr. Train said, to consider changing any of the management measures that we currently have in place. Follow up?

MR. BORDEN: Yes, thank you very much. I think it's important, if it was an economic study that was submitted by a gentleman in Maine. I think that should be referred to the Technical Committee for a review, as part of that, so we at least get technical comments on any of the suggestions that came forward under Other Business.

CHAIR KELIHER: Yes, we could certainly make sure that is done. Dan McKiernan.

MR. McKIERNAN: I recognize the chaos this could cause with the importing and exporting of lobsters. I recognize the challenges of the grey zone. I went to the Town Meeting in Monkton, and on behalf of the Commission and behalf of my Agency, got up in front of the group and told them, this is coming January 1, 2025, so you guys have some time to react to this.

I would suggest that this Board vote to write a letter to Canadian DFO, and if there are any trade groups, urging them to take the appropriate action to match this conservation measure in the Gulf of Maine, because we're all fishing on that single stock. I think the points that were being made today by the industry about the discrepancies between the two countries are definitely relatable.

But I'm concerned that if we are signaling that we are going to delay this, then Canada will delay their action, and next thing you know we're back to 1990, when the industry successfully thwarted the last two gauge increases through respective state legislatures. Are we doing enough to urge the Canadian government and the Canadian processors and the Canadian fishing industry to enhance the conservation? If not, I think we should go on the record with such a letter.

CHAIR KELIHER: Thank you, Dan. Doug Grout.

MR. GROUT: Just a query about Dave Borden's suggestion that the economic study be referred to the Technical Committee. What are we expecting out of them from it, if it would be better to refer to our social and our SES Committee? I just don't know what we're going to get from the Technical

Committee. Maybe you have some ideas of what we would get out of it, David, from the Technical Committee.

CHAIR KELIHER: Jason McNamee.

DR. JASON McNAMEE: Thanks for bringing that up, Doug. I was having the same thoughts. I don't know the full membership of the Technical Committee. I'm guessing there is probably not economists on there. The Commission does have a Committee for Economic and Social Science, so we might be better served to look for that report to then. They definitely have economists on there. We might get better feedback from that group.

CHAIR KELIHER: Dave Borden.

MR. BORDEN: That's fine with me, Mr. Chairman. I just wanted to have kind of an external review. I just point out that our Technical Committee in the past has provided this Board with some estimates of the impacts of different gauge increases. That is all I want to have reviewed. You know, did they follow the protocols, are they using the correct data, that type of review.

CHAIR KELIHER: Toni.

MS. KERNS: I have a couple of notions, but I think it's best that if we're going to forward the report to the SES, what exactly do you want them to do with that report? What questions do you have for them? Is there any additional information that we need to provide? The TC did provide a look at landings impact when the Board considered the changes to the gauge sizes at that time.

We did have that information to the Board then to be providing that to SES as well to do a comparison. I'll just remind this Board that I have five major items that staff are working on right now for lobster, so we have the Area 2, 3 issue, which is time sensitive. NOAAs rulemaking will be completed in May of 2025, so if we're going to provide feedback to them to do something different, we need to do it before then.

We have to gather the economic data for the northern edge issue. The stock assessment is ongoing. We just were tasked with trackers, and if there I something additional that we're going to be tasked with for this Area 1 size increase, there is going to need to be some prioritization going on, in particular for the TC and for staff. It will just be too much to handle all of it between now and August.

CHAIR KELIHER: Yes, and I appreciate the need for prioritization and tasking, and that is based on conversations that I've had with industry and with other members of the Board. That is why I'm not looking at this time for taking immediate action. I think we have to have a full understanding of all the ramifications of the issues that I laid out. Dennis Abbott.

MR. ABBOTT: You know we're talking about having another off-schedule management meeting to, I won't call it revisit Addendum XXVII, and Toni said we would have to issue an addendum. In the meantime, Addendum XXVII stands with an implementation date, effective date of January 1st. Would we be able to meet that, number one.

Fully understanding what you said, Pat, about the ramifications that maybe we didn't look at, thought about but didn't look at. You know regarding the economic considerations. I think your economic consideration back in 2017, was you know, the economic considerations if the lobster industry went to heck in a hand basket.

You know delaying this, we could possibly be adversely affecting the lobstermen downstream a lot. I think it's a tough nut to crack right now, but I think probably having another off-cycle meeting of more than a couple hours to discuss everything might be helpful. Just a little small question. We had a six-month delay; I think based primarily on the manufacturer of new gauges. Have we manufactured new gauges? Do we have gauges in place for January 1st?

CHAIR KELIHER: I did have a conversation with one of the major gauge manufacturers, and they

were in process, and said that those would be available for purchase prior to that implementation date. Thanks, Dennis. This is obviously a very complicated issue. Again, I appreciate what I'm hearing from the industry in Maine

It is, we understand the needs, we just want to make sure that enough time transpires to see what is going to happen with Canada. I think that is really the critical or the crux of the situation. We even heard the industry put up, you know, is a 32nd approach more appropriate? Should we do vents first? I mean those are all things that I think, to Toni's point, probably need to have some additional conversations with the TC.

That gets us into the tasking. But I think to your earlier question, Dennis. From a timing standpoint I would turn to staff. But I think if we did an out of sequence Board meeting there potentially would be time to initiate something for final action prior to an implementation date. But it would, again to Toni's point, take some prioritization work to ensure that we're not crushing Caitlin.

MR. ABBOTT: Also, as a secondary issue. A lot of the correspondence we received talked about the grey area. I understand a bit about that. But anything that we're doing, is that really going to effect the change, what goes on in that grey area?

CHAIR KELIHER: The grey area is a very complicated situation between the U.S. and Canada. We'll certainly never resolve the border dispute. But consistency in regulations between the two countries is about as good as you possibly could get from trying to resolve some of those issues. But Toni, did you have additional? No, okay. I am cognizant of, I'm ahead of schedule. How the hell did that happen? Dan McKiernan.

MR. McKIERNAN: Would it be appropriate for me to make a motion about a letter to Canada DFO and relevant Canadian fishing associations from the Board, urging them to follow suit?

CHAIR KELIHER: It's your prerogative to make a motion and see where it goes.

MR. McKIERNAN: All right, I'm going to give it a shot. Motion to **draft a formal letter to Canada DFO and relevant Canadian industry associations as identified by the Board Chair and the Executive Director. This letter would request Canada increase the minimum size for lobster in the Gulf of Maine on the same schedule as the ASMFC plan, as captured in Addendum XXVII.**

CHAIR KELIHER: Before I go to a seconder on that. Dan, did you want to have anything around further engagement with this Board?

MR. McKIERNAN: Well, honestly, I'm very apprehensive, because I think if we signal a special Board meeting, I think the gauge manufacturers will stop producing the gauges, and we won't get a rule in place. Massachusetts has already had its regulations approved by its regulatory board, so we are well on our way. But it would make a lot more sense to me if we could get signals from Canada. Otherwise, we're just going to be in this quagmire of, we can't do anything because it will upset the trade balance.

CHAIR KELIHER: We have a motion on the table. I've already got a second on my left, but I'll come back to you. Let's get this on the board. We have a motion by Dan McKiernan, second by Dave Borden. But let's make sure that this is perfected before we go any further. I'll ask the maker and the seconder, just to make sure that we've captured that correctly.

MR. McKIERNAN: It looks good to me, Pat.

CHAIR KELIHER: The only thing I would say, that I did receive an e-mail from Doug Wentzel, the Maritime Director of DFO, and the process that they have to follow would not allow them to achieve this, because they have a one-year consultation process with their First Nation Fishery. I'm just raising that to make sure that the Board understands that they are not going to be able to achieve that request. They are not going

to get there. I would be happy to share that e-mail with the Board. Second was Dave Borden. We have a motion on the board now, Steve Train.

MR. TRAIN: Dan, I know you want to put a hammer on this timeline, but could that be modified to, or as soon as possible. They might not be able to do it that quickly. Then if we get something back from them saying, yes, we could probably get there in 18 months. It might give us time to match up with them or something.

MR. McKIERNAN: Yes, I would accept that amendment. On the same schedule, and then insert, or as soon as possible.

CHAIR KELIHER: I'm going to go with Pat's Rules of Order and allow that as a friendly, as long as I don't see any objection. Okay, Alli.

MS. MURPHY: Just recognizing that the Commission has Addendum XXX out for public comment right now that is considering extending the Addendum XXVII measures to dealers. Would a clarification to this on the minimum size would apply to U.S. harvesters be helpful?

MS. KERNS: Addendum XXVII applies to what the fishery is doing. It doesn't clarify, and Addendum XXX doesn't clarify dealers, per se. These are the measures that are in place for the fishery itself. We don't clarify whether or not something is a possession limit or not. That is a state's decision to make it a possession limit or not. This is what the fishery is allowed to harvest. I don't think that we have to clarify, because that is what our documents always do. Our documents don't set possession limits for a state itself; a state would do a possession limit.

CHAIR KELIHER: I would agree with that. It's given, because it is related to Addendum XXVII, XXX I think is obviously a separate issue, related yes, but something that is going to come at a later time with additional Board conversations. Alli, while we have your focus, does NOAA expect to have rules implemented on the gauge increase by January 1, 2025?

MS. MURPHY: We are starting the rulemaking process, but I think as I spoke at the last meeting, it would be exceedingly difficult for us to complete rulemaking in less than a year, especially in an election year.

CHAIR KELIHER: Thank you, Alli, for that. We have a motion on the board. Motion by Dan McKiernan, seconded by Dave Borden. Are there any additional comments on this motion**? Is there any objection to the motion? Seeing no objection, the motion passes.** Okay, thank you very much. Eric, did you have something? No, no, okay. That is all the business for the Lobster Board today. Just one last call. Dennis Abbott.

MR. ABBOTT: Yes, thank you, Mr. Chair. You talked about having an off-schedule Board meeting. It's kind of early, but what would you anticipate a time frame for us getting together?

CHAIR KELIHER: Yes, thanks for that, Dennis. My thinking is to understand what is going to happen with the LFA 34 vote, which I understand will be in early to mid-June. Their fishery ends the end of May, and then what I've been told is it would be just after that. Having that information in hand, one way or another. If I had my druthers it would be in late June/early July. I think we would need to see how that plays out and I would want to have additional conversations with staff about staff resources.

ADJOURNMENT

CHAIR KELIHER: I think a motion to adjourn is in order. So move. There are hands everywhere; motion to adjourn passes.

(Whereupon the meeting adjourned at 11:15 a.m. on Tuesday, April 30, 2024)

ATLANTIC OFFSHORE LOBSTERMEN'S ASSOCIATION

158 Shattuck Way, Newington, NH 03801 | 603-781-9718 | www.offshorelobster.org

Massachusetts Lobstermen's Association

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June 17, 2024

Eric Reid, Chair
New England Fishery Management Council
50 Water St., Mill #2
Newburyport, MA 01950

Re: Scallop gear access to the Closed Area II habitat protection area

Dear Chairman Reid,

The Atlantic Offshore Lobstermen's Association represents about 40 vessels fishing the majority of traps deployed in the offshore Lobster Conservation Area 3 (LCMA 3), which includes the Northern Edge of Georges Bank. The Massachusetts Lobstermen's Association's (1,800 members includes hundreds of Massachusetts fishermen. We write jointly in opposition to opening this habitat area to scallop dredging because of the destructive nature of the gear to lobsters, and the related risk to lobster recruitment.

Scallop Dredge Gear Impacts on Live Lobster

In April, the ASMFC completed its Technical Report on Lobster Resource and Fishery Effort on the Northern Edge (TR) (https://tinyurl.com/axum8xxc). Page 16 of that report documents the damage that scallop dredging caused to lobsters in one study; lethal damage in red and moderate in orange:

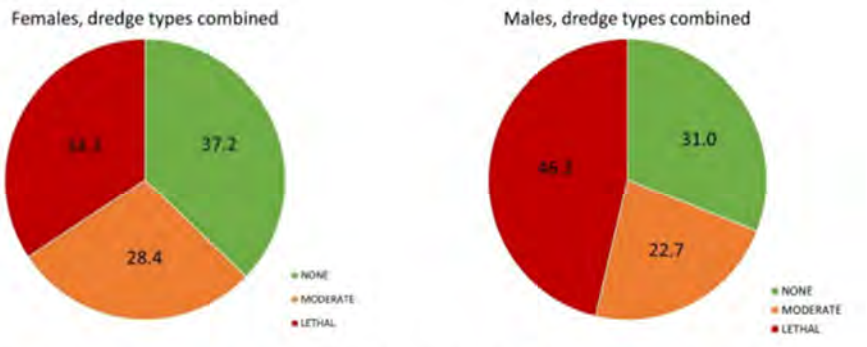


Figure 17. Overall damage rates (% of the catch) for female and male lobsters caught in the CFF scallop dredge bycatch survey (years and dredge types combined). N females = 2,060. N males = 216.

The report also concluded that larger lobsters (greater than 110 mm carapace length (about 4.3 inches) were more likely to sustain damage (TR, p. 16). The resident population of lobsters on the Northern Edge is mostly at or above that size, and the report notes (TR, p. 17): "There are also good indications of large aggregations of egg-bearing females on top of the Bank, in and immediately south of the HMA in the late summer and fall."

Lobster Habitat and Recruitment Considerations

The Technical Report notes this area is an important and favorable habitat area to lobsters (TR, p. 18):

- "…shoal areas with access to adjacent deep-water like Georges Bank appear to be particularly attractive to egg bearing lobsters, and aggregations have been reported throughout the species range in areas with these bathymetric characteristics."
- "These areas are likely attractive due to warm shallow water in the spring/summer months to brood eggs, and nearby deep calm water in the colder months for overwintering."

In 2023, the ASMFC implemented its Addendum XXVII to the lobster fishery management plan (https://tinyurl.com/3ujar6zr). Recent declines in biological reference points, including recruitment and SSB indicators (such as young of the year indices and trawl survey catch) triggered future requirements to increase minimum lobster sizes inshore, and reduce the maximum lobster size limit in the offshore LCMA 3.

For LCMA 3, the maximum size reduction is intended to reduce removals of fecund lobsters, providing for more egg production. Coupled with tagging data suggesting migration from the Georges Bank area to inshore grounds (TR, p. 11), there is hope that this will help increase lobster recruitment throughout the GOM/GB range.

The *Technical Report* is clear that ovigerous lobsters abound in this area (TR, p. 18):

- "Several studies have shown that adult lobsters tend to exhibit seasonal movement patterns, migrating to deeper water in the colder months and to shoal waters in the warmer months…"
- "…shoal areas with access to adjacent deep-water like Georges Bank appear to be particularly attractive to egg bearing lobsters, and aggregations have been reported throughout the species range in areas with these bathymetric characteristics…"
- "…the high abundance of large (> 100mm CL) highly fecund lobsters on Georges Bank removes any doubt of the importance of this segment of the population to continued sustainability of the resource."

Nor are our concerns assuaged by longer-term cyclical annual scallop openings. Lobsters generally take 5-7 years from hatching to reach fecundity and the minimum legal size for fishery retention. Here, scallop dredges would damage important bottom habitat for juvenile lobster which the NEFMC acknowledges would take years to repair. Then, around the time the surviving population reached reproductive and harvestable ages, scallop dredges would return to both damage survivors, and scour the bottom habitat again. Rinse and repeat for each scallop access cycle.

Conclusion

In response to adverse abundance indicators, the ASMFC has taken action to reduce mortality and increase recruitment of the American lobster resource, stating: "Given the American lobster fishery is one of the largest and most valuable fisheries along the Atlantic coast, potential decreases in abundance and landings could result in vast economic and social consequences." (Addendum XXVII, p. 1)

Opening the habitat management area on the northern edge of Georges Bank to scallop dredging runs counter to those conservation efforts. Most large lobsters evidently die or are severely injured when impacted by this gear. The proposed area is critical lobster habitat and highly populated by larger ovigerous females, a subpopulation the ASMFC specifically calls out for its importance to the overall health of the resource.

For these reasons, the undersigned Associations request the NEFMC place a high level of consideration on the ASMFC's *Technical Report,* the Commission's efforts to conserve the lobster resource and its habitat, and decline to allow scallop dredge access to the area at this time.

Thank you for your consideration,

Hank Soule

Hank Soule, Deputy Director

Atlantic Offshore
Lobstermen's Association

Beth Casoni

Beth Casoni, Executive Director

Massachusetts
Lobstermen's Association

cc: Atlantic States Marine Fisheries Commission

ASMFC American Lobster Board

Dear Board Members,

For those of you who don't know me, my name is Robert Nudd, most people know me as Bobby Nudd. I represent New Hampshire on the ASMFC's Lobster Advisory Panel and the LCMT. I have also served, from its inception, on the Large Whale Take Reduction Team and I have fished commercially for over 50 years. I have sat at the table in some capacity thru the formulation of ASMFC's Amendment 3 to the American lobster management plan and every addendum to that plan.

When asked for my input on Addendum 27 and after much thought I stood in favor, leaning to the future health of the resource. The data was very convincing although very limited in scope because the areas and methods of collection did not represent a true picture of today's lobster fishery. I was convinced that before the threshold was reached that the data, sampling sights and methods would be updated to reflect the current fishery. I was extremely disappointed that this was not done.

This is not your father's fishery. This fishery, as is the case with every fishery in the Gulf of Maine, has moved further away from shore. This movement has become more rapid and more pronounced in the past 10 years. For whatever reason, (I call it People Pollution) the lobster resource is no longer a near shore resource. The settlement, the nursery, the juvenile population has moved to deeper waters. Sampling in tidal pools and trap surveys in near shore waters alone no longer creates an adequate picture of the resource.

In my original consideration of this addendum I failed to consider the world wide complexities of this fishery. The snow ball effects of this addendum to economics in the lobster fishery could be catastrophic. Just one result might be the flooding of the world market with lobsters smaller than those caught in the US thus closing those markets to the US fishery. The price paid per fisherman in this scenario might be the exact opposite to what was described in the reasoning behind Addendum 27.

Next, I'm not sure if gauge increases in consecutive increments is a wise idea. I have been thru two gauge increases. From experience I can tell you that the first year could result in 30 to 40 per cent economic effect. In the second year that effect declines. It is not until the third year that the intended benefit is realized. Regardless of the size of the increase I believe the economic results are the same. Thus consecutive increases stretches the time before benefit is realized over a far longer period than necessary doubling the financial burden put on the fishermen.

As a member of the lobster advisory panel and a fisherman with 50 years of watching the lobster resource I am asking that you give serious consideration to postponing the implementation of Addendum 27 until its effects on the lobster fishery can be further examined.

Thank you for your consideration.

Sincerely,

Bobby Nudd

ATLANTIC OFFSHORE LOBSTERMEN'S ASSOCIATION

158 Shattuck Way, Newington, NH 03801 | 603-781-9718 | www.offshorelobster.org

July 11, 2024

Stacey M. Jensen and Christopher Laabs
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20004

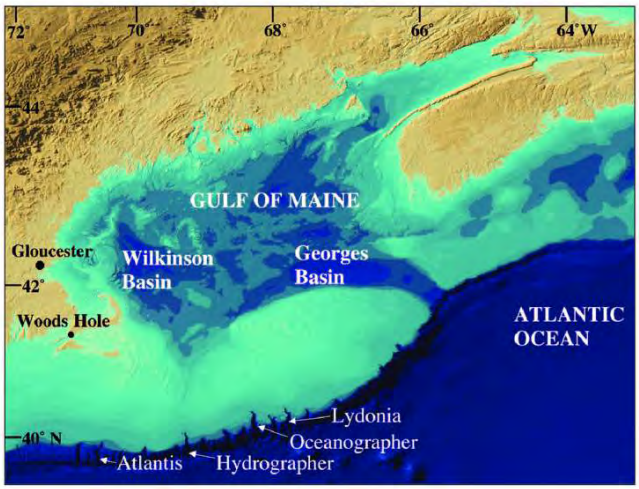
Dear Ms. Jensen and Mr. Laabs,

The Atlantic Offshore Lobstermen's Association (AOLA) is a fishing industry trade group representing dozens of lobster and crab trap fishing vessels harvesting crustaceans in the waters of the Gulf of Maine, Georges Bank, and southern New England. Our membership operates out of Maine, New Hampshire, Massachusetts and Rhode Island ports, as a subset of the $500 million lobster fishery.

The Environmental Protection Agency has received an application from the Woods Hole Oceanographic Institution (WHOI) to disburse a 50% diluted concentration of sodium hydroxide into the Wilkinson Basin area in the Gulf of Maine during the summer of 2025. This experiment, named the LOC-NESS Project, should not be permitted by EPA until a far more robust analysis of its impact on marine life is completed.

LOC-NESS proposes to disburse "up to 200 metric tons of sodium hydroxide (added as 66,000 gallons of 50% solution in fresh water)[1]." It will be released in Wilkinson Basin 1 to 2 meters below the surface of the water for up to 6 hours in an outward spiral pattern.

Figure 1: Location of Wilkinson Basin

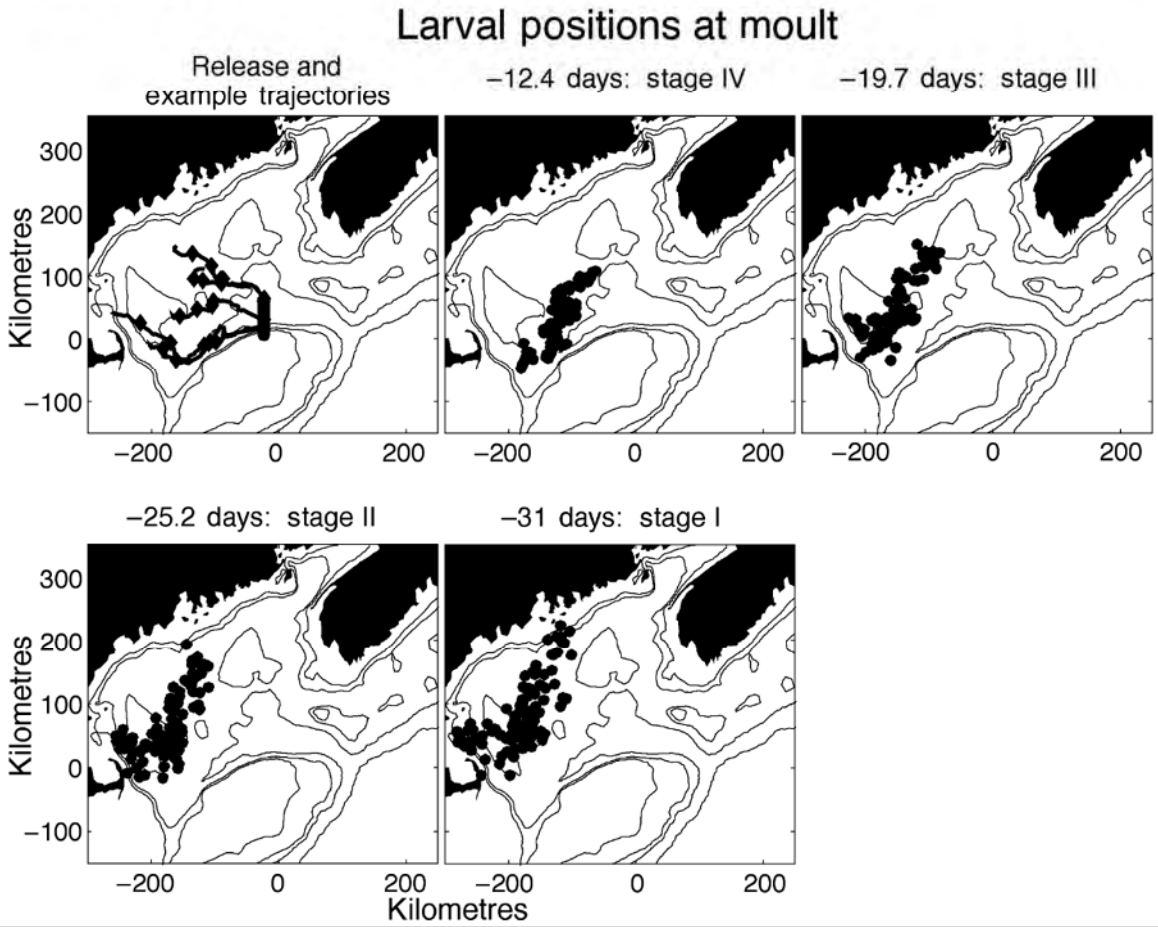


[1] LOC-NESS project FAQ, https://locness.whoi.edu/faqs/, see "How much alkalinity is being disbursed?"

When baby lobsters are hatched, they float near the surface of the ocean for four larval stages before settling to the bottom of the ocean[2]. Research has shown that the Wilkinson Basin area can a prime location for larval lobster distribution, such as:

Figure 2: Lobster Larval Positions, 1989[3]

Figure 13. Backtracking larval drift from the northern flank of Georges Bank for the summer of 1989. The simulation starts on the fourth week of July with mid-stage IV lobsters located along a line 42.0°N, 66.28°W (off Georges Bank) to 42.56°N, 66.28°W (Gulf of Maine). The panels are organized in a similar fashion to Fig. 10. The moult from stage III to IV occurred 12 days before, the moult from stage II to III occurred 20 days before and the moult from stage I to II occurred 25 days before the beginning of the simulation, respectively. Hatching occurred 31 days before the beginning of the simulation. This corresponds to late June or early July.



Sodium hydroxide, also known as 'lye,' is a highly toxic substance which even at a diluted level is likely to cause instant death to any larvae (lobster or other) it touches. The LOC-NESS permit application mentions undefined 'potential' impacts to herring, butterfish and Atlantic mackerel larvae and eggs in the context of elevated alkalinity, but not in terms of contact with a corrosive chemical. The application is silent on the topic of impacts to the valuable lobster resource.

[2] https://umaine.edu/lobsterinstitute/educational-resources/life-cycle-reproduction/

[3] Harding et al, "Larval lobster (Homarus americanus) distribution and drift in the vicinity of the Gulf of Maine offshore banks and their probable origins," p. 21, available via https://shorturl.at/T4ATM

AOLA believes the LOC-NESS experiment should be at the very least tabled, until investigation the projected impacts on lobster larvae of injecting lye into the surface water layer. This research should include expected chemical dilution footprint and time. We would insist consultation should be held with NOAA's Northeast Fishery Science Center, which has scientific expertise in marine biology.

AOLA opposes dumpinging 200 metric tons of this caustic chemical into the ocean without a far more robust analysis of its effect on lobster larval (and other sea life) mortality, as well as impacts such as mortality rates and other health effects to the initial survivors. Absent such analysis, the application should be rejected.

Thank you for the opportunity to comment,

Hank Soule
Deputy Director

cc Atlantic States Marine Fisheries Commission
Maine Congressional delegation
New Hampshire Congressional delegation
Massachusetts Congressional delegation
Rhode Island Congressional delegation

Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **American Lobster Management Board**

FROM: **Caitlin Starks, Senior Fishery Management Plan Coordinator**

DATE: **July 22, 2024**

SUBJECT: **Plan Development Team Report**

In January 2024, the Commission's American Lobster Management Board (Board) tasked the Plan Development Team (PDT) with the following motion:

> *Move to have the Plan Development Team review the conservation measures originally set in Addenda XXI and XXII and make recommendations for alternate measures to achieve those reductions inclusive of the Lobster Conservation Management Team (LCMT) recommendations by the ASMFC Spring Meeting.*

This task responds to industry concerns about the delayed federal implementation of Addendum XXI and XXII measures, including maximum trap and ownership caps, given significant changes in the fishery since the Addenda were approved in 2013.

The enclosed report includes the PDT's analyses to characterize the changes in the lobster fishery since 2013 and evaluate whether the goals of Addendum XXI and XXII have been achieved. The report also outlines possible management measures the Board could consider. The PDT's analyses and recommendations consider input from LCMTs 2 and 3, which met in April and June.

Enclosed: American Lobster Plan Development Team Report

American Lobster Plan Development Team Report

Changes in the Lobster Fishery and Alternative Measures to Addenda XXI and XXII

July 2024

Plan Development Team:
Allison Murphy, NOAA Fisheries
Josh Carloni, New Hampshire Fish and Game Department
Corinne Truesdale, Rhode Island Department of Environmental Management
Story Reed, Massachusetts Division of Marine Fisheries
Caitlin Starks, ASMFC

1. Background

In 2013, the Commission's American Lobster Management Board (Board) approved two addenda: Addenda XXI and XXII. These actions responded to the 2009 stock assessment finding that the Southern New England (SNE) stock status remained depleted. The Addenda, in conjunction with Addendum XXVIII, aimed to scale the SNE fishery to the size of the resource with an initial goal of reducing qualified trap allocation by at least 25 % over a five to ten year period of time. For LCMA 2, Addendum XXI established a single ownership trap cap of 1,600 traps, which would expire two years after the after the last trap reduction from Addendum XVIII, and return to 800 traps. This was to allow for businesses that were cut in the annual trap reductions to efficiently rebuild their business. It also established an aggregate ownership cap of 1,600 traps and 2 permits per entity, of which 800 maximum could be fished. For LCMA 3, Addendum XXI established a series of active trap cap reductions over five years, where the maximum number of traps allowed to be fished would be reduced by 5% per year from 2,000 traps to 1,548 traps. For LCMA 3, Addendum XXII established a schedule for single ownership caps to allow for the purchase and accumulation of traps over and above the active trap cap limit during the trap reduction period, and also an aggregate ownership cap limiting the number of traps a single company or entity could own to five times the active trap cap. The aggregate ownership cap was intended to prevent consolidation of the fishery.

The measures in Addenda XXI and XXII were implemented for state waters, however, complementary federal measures were not finalized until October 2023 and scheduled to be implemented on May 1, 2025. In the decade that passed since the Commission intended for complementary federal measures to be implemented, increases in the cost of bait and fuel, the loss of fishing ground to wind energy development, marine mammal protections, and the expansion of the Jonah crab fishery have significantly changed the SNE lobster fishery. Given these changes, the industry and resource managers no longer support Addenda XXI and XXII measures. In response, the Commission recommended NOAA withdraw the rule implementing

the ownership caps and trap cap reduction measures. The Board tasked the Plan Development Team (PDT) to review the original goals and objectives of Addenda XXI and XXII and make recommendations for alternate measures to achieve those goals, considering recommendations from the LCMA 2 and 3 Lobster Conservation Management Teams (LCMTs). This report includes the analyses and recommendations developed by the PDT in response to the Board task.

2. Analysis

The LCMA 2 and 3 lobster fisheries have undergone substantial changes since Addenda XXI and XXII were adopted by the Board in 2013. The following section discusses changes to permits issued, trap allocations, the maximum number of traps fished, the number of latent traps, the distribution of landings in LCMA 3, and the emergence of the Jonah crab fishery. Where possible, State and federal data has been combined to depict the fullest possible picture of effort or activity. Available state and federal datasets did not always align and some data remain unavailable. In some cases, this necessitated displaying state and federal datasets separately. Missing or unavailable data will be noted.

a. *Changes in Lobster Permits Issued and Location*

To determine if there were any observable trends with the number of permits issued or the states from which vessels were fishing (based on principal port state reported on the federal vessel application), the PDT examined publicly available federal permit data for any trends for LCMAs 2 and 3.

Federal data indicate that the total number of federal LCMA 2 permits issued to vessels has decreased substantially between 2014 and 2023, as depicted in Table 1. A relatively dramatic decrease is observable following the LCMA 2 sub-qualification program (between 2014 and 2015), with half of the permits being issued in 2015. Generally, slight decreases are observable in all states since, though both Maine and New York had increases in LCMA 2 permits issued since the area sub-qualification.

Table 1. Federal LCMA 2 Permits Issued by State, based on Principal Port State.

Year	ME	NH	MA	RI	CT	NY	NJ	VA	NC	Total
2014	7	7	130	130	19	20	27	1	2	343
2015	2	0	60	93	7	2	2	0	0	166
2016	3	0	63	89	7	2	1	0	0	165
2017	0	0	59	83	5	2	1	0	0	150
2017	0	0	58	81	6	2	1	0	0	148
2019	0	0	58	76	5	2	1	0	0	142
2020	1	0	60	78	3	2	1	0	0	145
2021	1	0	61	73	4	3	1	0	0	143
2022	2	0	61	69	4	5	1	0	0	142
2023	4	0	50	67	4	7	1	0	0	133

federal data indicate that the total number of federal LCMA 3 permits issued to vessels has also steadily decreased, from 105 permits in 2014 to 76 permits in 2023, as depicted in Table 2. Most states have seen a decrease in the number of federal LCMA 3 vessels, with the largest decrease occurring in Rhode Island. Notably, the number of permits issued to New Hampshire vessels increased, then decreased over the time period. The number of New Jersey vessels has remained relatively stable.

Table 2. Federal LCMA 3 Permits Issued by State, based on Principal Port State.

Year	ME	NH	MA	RI	NY	NJ	DE	MD	VA	Total
2014	4	16	37	33	6	6	1	1	1	105
2015	3	18	39	29	5	4	1	0	1	100
2016	2	20	37	28	5	5	0	0	1	98
2017	2	18	37	26	4	6	0	0	1	94
2018	3	19	36	25	3	4	0	0	1	91
2019	2	21	32	25	3	4	0	0	1	88
2020	1	22	34	21	3	4	0	0	2	87
2021	0	17	33	17	3	5	0	0	2	77
2022	2	16	33	18	2	5	0	0	0	76
2023	1	17	34	17	2	5	0	0	0	76

Comments received by Commission during its feedback session on NOAA Fisheries' October 2023 interim final rule (for ownership caps and maximum trap cap reductions) suggested a possible northward migration of permits. The above data appear to show fewer permits being issued to states that may be more likely to fish on the Southern New England stock (Rhode Island to Virginia). This review did not examine individual ownership, which would be required to more closely examine the suggested northward movement trend of permits. Such a trend could be masked if permits moving northward are balanced by attrition of older permits in northern states. Additional time would be required to examine individual ownership of these permits over the time period.

The PDT also examined some state-level data. Commonwealth of Massachusetts data, depicted in Figure 1, shows a declining trend in active permits landing in Massachusetts between 2010 and 2022 for both LCMAs 2 and 3. The same pattern appears in Rhode Island, with declines in the number of active permits being more pronounced in LCMA 2.

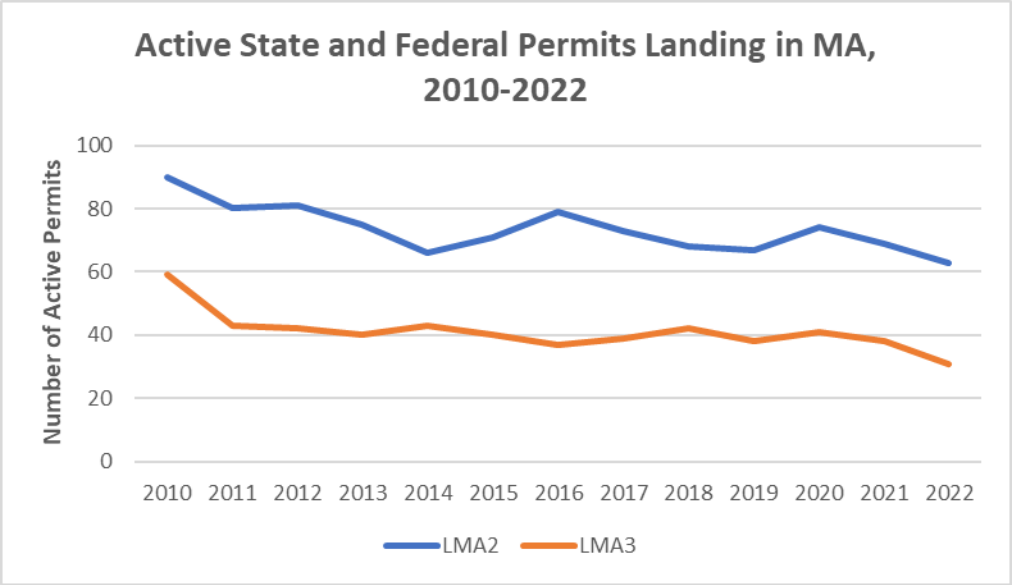

Figure 1. Active State and Federal Permits Landing in MA, 2010-2022

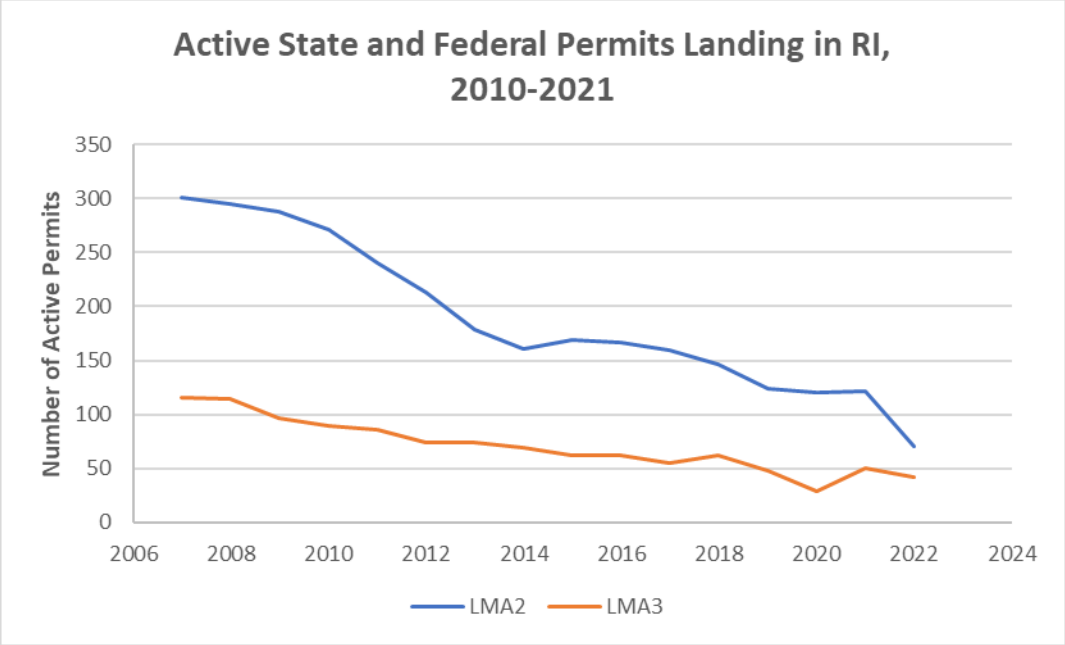

Figure 2. Active State and Federal permits landing in RI, 2010-2021

b. *Changes in Trap Allocations*

During the time period in question, LCMA 2 permit holders' allocations were reduced by 25% in 2016, and then an additional 5% each year between 2017 and 2021. The trap transferability program went into effect at the same time, partly as a means for industry to right-size their fishing operations. The PDT investigated federal LCMA 2 permit holders' responses to trap

reductions and transferability, displayed in Figure 3. Trap reductions clearly reduced allocations, increasing the mid-range trap bins (201-400 and 401-600). In addition, some permit holders took advantage of the trap transferability program to maintain a higher trap allocation.

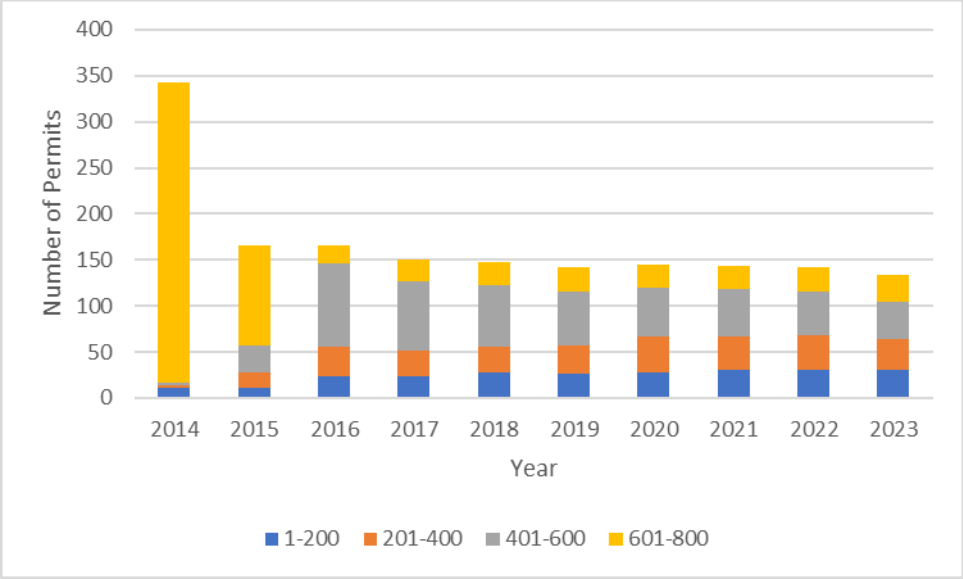

Figure 3. Number of Federal LCMA 2 Permits and their Trap Allocations by 200-trap bins, 2014-2023

Combined federal, Massachusetts-only, and Rhode Island-only LCMA 2 allocations show the reduction in trap allocation following the allocation reductions in Figure 4. Please note the time series for this data set is 2015-2023 because the PDT is currently missing Rhode Island state-only LCMA 2 allocation data for the years 2012 through 2014. Between 2015 and 2023 there was a 45.4% reduction, from 153,029 traps to 83,535 traps, in the combined state and federal LCMA 2 allocation.

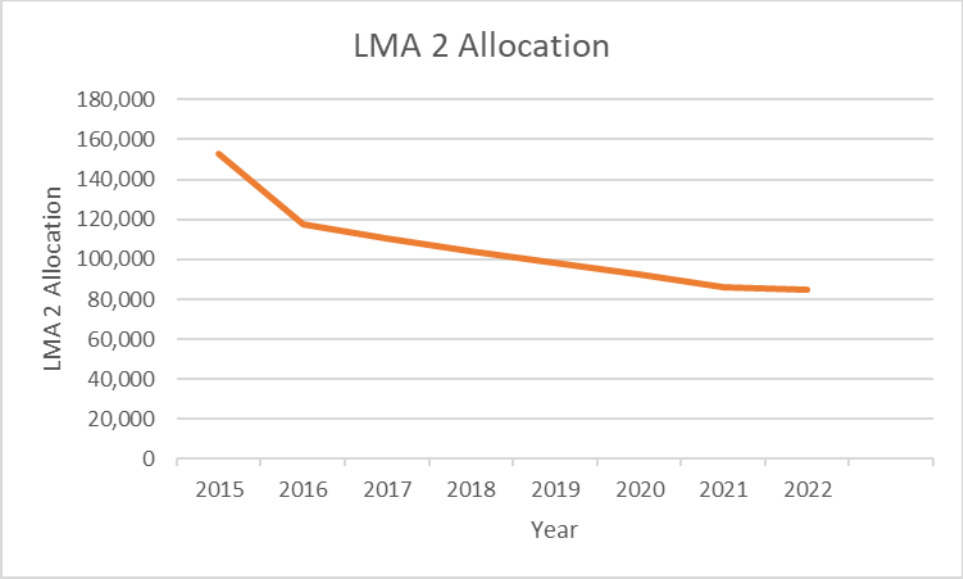

Figure 4. Combined federal, MA-only, RI-only, LCMA 2 allocations, 2015-2023

During the time period in question, LCMA 3 permit holders' allocations were reduced 5% each year over 5 years, from 2016 to 2020. The PDT similarly investigated LCMA 3 permit holders' responses to trap reductions and trap transferability, displayed in Figure 5. Federal LCMA 3 permit holder's trap allocations were binned into 500-trap bins. Prior to transferability (2014 and 2015), allocations were stable and fairly even distributed across the trap bins (with very few permits having 500 traps or fewer). With the start of trap reductions and transferability, it appears that permit holders transferred traps from permits with small or medium allocations to increase the number of permits with between 1,501 and 1,945 traps.

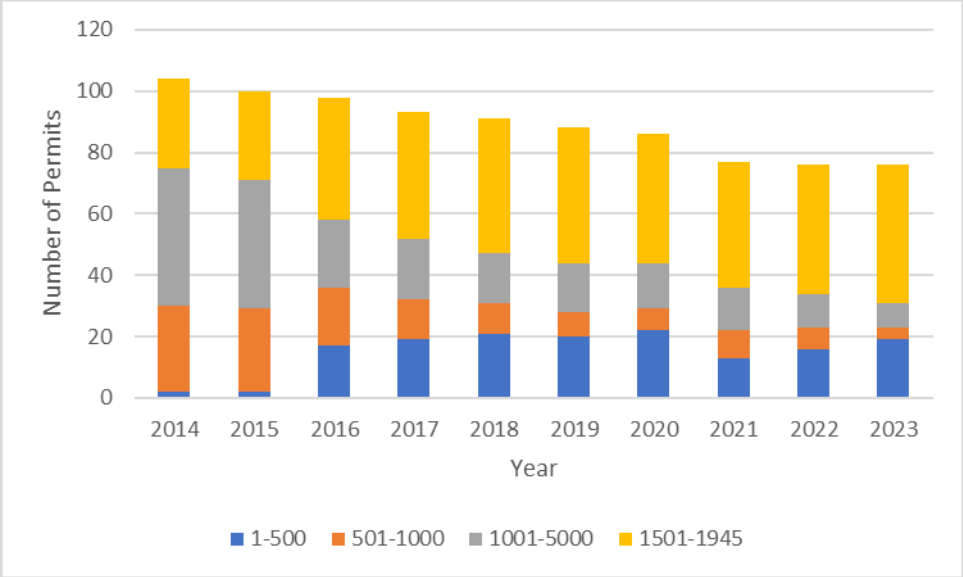

Figure 5. Number of Federal LCMA 3 Permits and their Trap Allocations by 500-trap bins, 2014-2023

Federal LCMA 3 allocation data reflect the 5% per year reduction over the 2016 to 2020 time period. The data show a 20.2% reduction, from 120,466 traps fished to 96,087 traps fished, from 2013 to 2023. The annual totals do not take into account any allocation held on a permit that was in Certification of Permit History (CPH) for that given year.

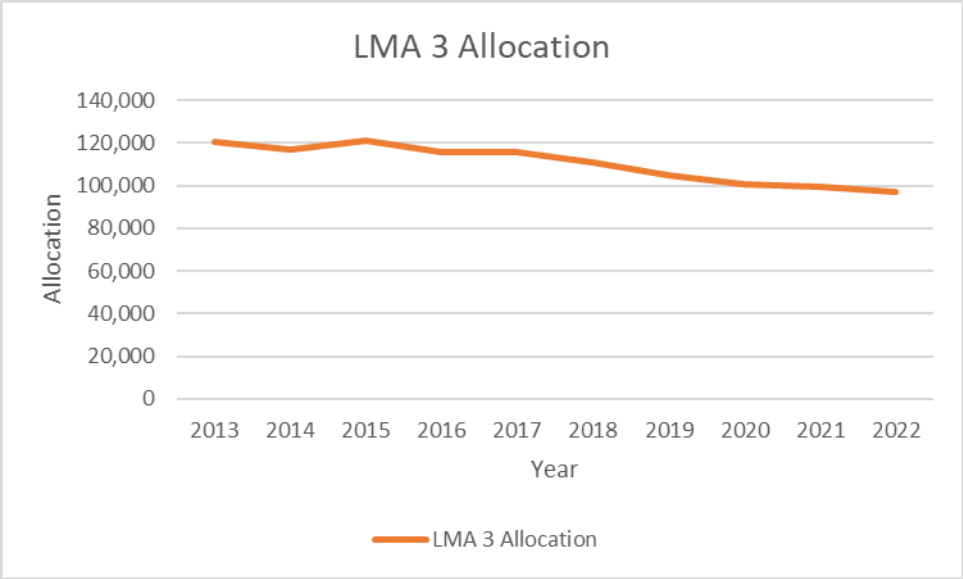

Figure 6. Federal LCMA 3 allocations, 2013-2023

c. *Changes in Maximum Traps Fished*

The PDT investigated changes to the maximum number of traps reported fished each year between 2013 and 2022. Data reported to NOAA Fisheries, Massachusetts, and Rhode Island were compiled to create a comprehensive data set for this analysis.

Similar to trap allocations, maximum traps fished has declined significantly in LCMA 2 over the past ten years. Figure 7 depicts a 39% reduction, from 69,875 traps fished to 42,846 traps fished, from 2013 to 2022.

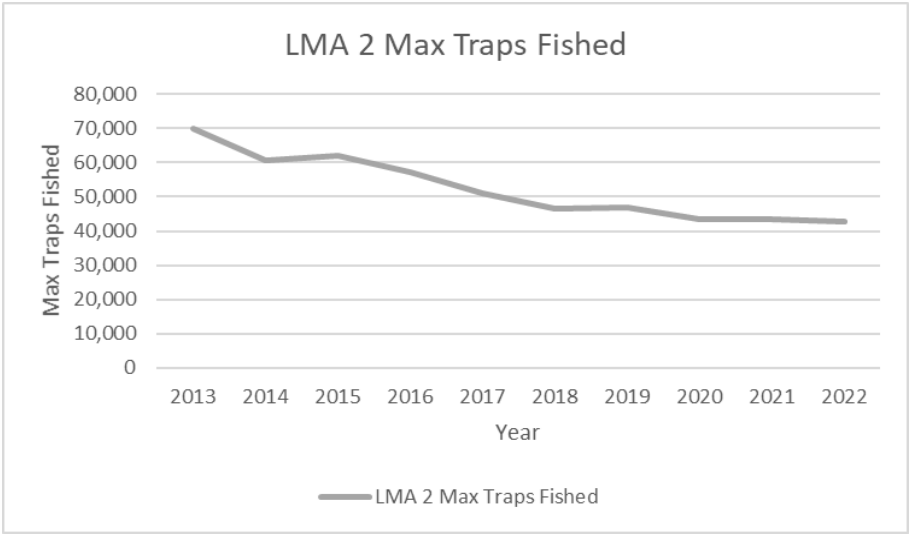

Figure 7. LCMA 2 maximum traps fished, 2013-2022

Despite the 20.2% reduction in allocation, maximum traps fished in LCMA 3 have been relatively stable over the past 10 years. Figure 3 depicts a 4.3% reduction from 2013 to 2022.

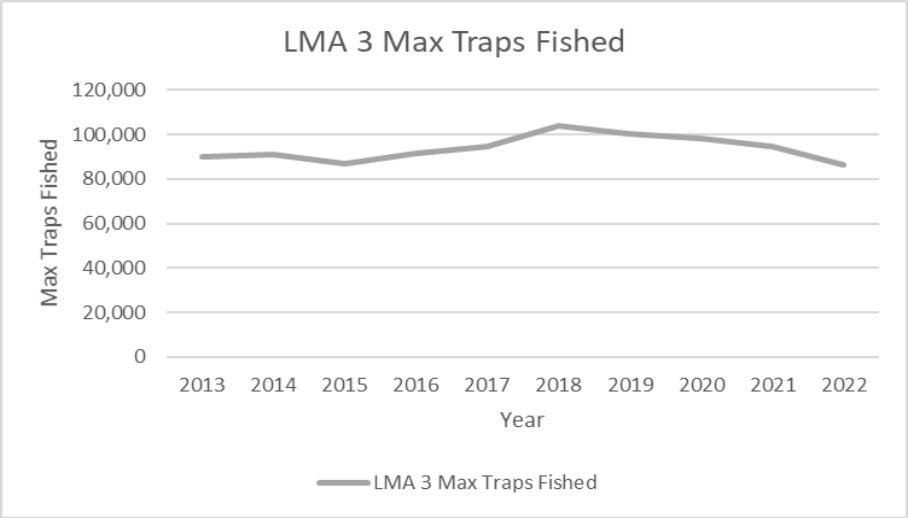

Figure 8. LCMA 3 maximum traps fished, 2013-2022

d. *Changes in the number of Latent Traps*

The PDT did comparisons between allocated and maximum traps fished in LCMAs 2 and 3 to assess the number of latent traps in each area. For LCMA 2, this comparison covers the years 2015 to 2022 due to available data. Latent traps in LCMA 2 were reduced by 54%, from 91,001 traps to 41,802 traps, between 2015 and 2022 (Figure 9).

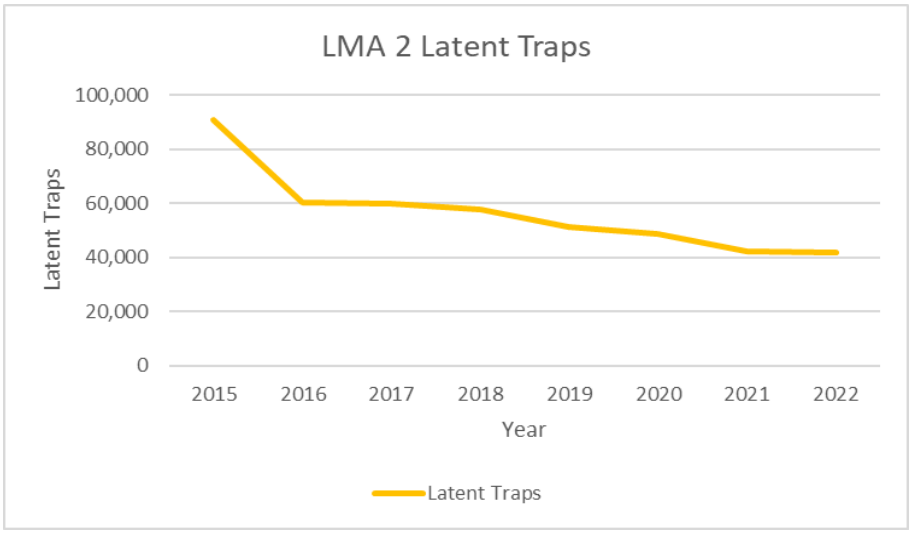

Figure 9. LCMA 2 latent traps, 2015-2022

Latent traps in LCMA 3 were reduced by 64%, from 30,301 to 10,931 traps, between 2013 and 2022. In 2020, the number of latent traps went down to the lowest amount in the time series, 2,190 (Figure 10). The data show that as LCMA 3 allocations were reduced beginning in 2016, the number of latent traps was reduced as well. Businesses used the trap transfer program to

acquire traps to remain “whole”. Many of these traps came from permits with smaller or latent trap allocations, as also discussed in the Changes to Trap Allocations section.

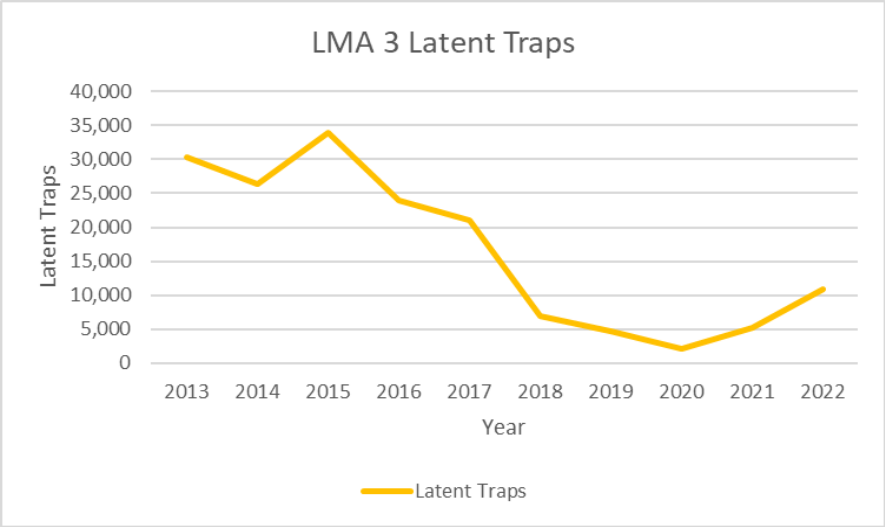

Figure 10. LCMA 3 latent traps, 2013-2022

It is important to reiterate that this analysis did not include federal permits in CPH. The traps associated with permits in CPH could be considered another source of latent traps.

e. *Changes in Trips and Landings*

Specific to LCMA 3, the PDT examined activity and landings of federal vessels between 2008 and 2023 to determine if an effort shift from the Southern New England stock to the Gulf of Maine/Georges Bank was apparent. First, the PDT examined the number of trips in each stock area. In the early part of the time series, the number of trips was fairly evenly distributed. By the end of the time series, nearly 70% of trips were in the Gulf of Maine/Georges Bank stock area. The overall number of trips in SNE has declined since 2008, while the number of trips occurring in the GOMGBK stock has been relatively stable.

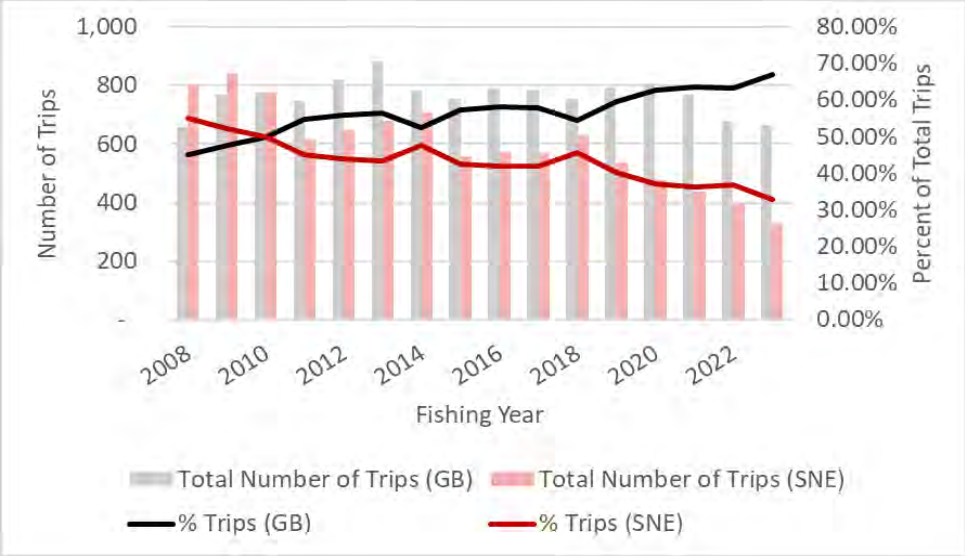

Figure 11. Trips by Stock Area for Federal LCMA 3 vessels, 2008-2023

Additionally, the PDT examined lobster landings in each stock area. While landings were historically skewed toward the Gulf of Maine/Georges Bank stock area, landings have shifted from approximately 30% from the Southern New England stock to less than 10%.

Prior to April 1, 2024, federal lobster-only permit holders were not required to submit vessel trip reports. Thus, activity and landings information presented above from federal data is not comprehensive. The PDT discussed how representative these data were of the LCMA 3 fleet. As depicted in Figure 13, approximately 80% of vessels have had a federal reporting requirement during the time series.

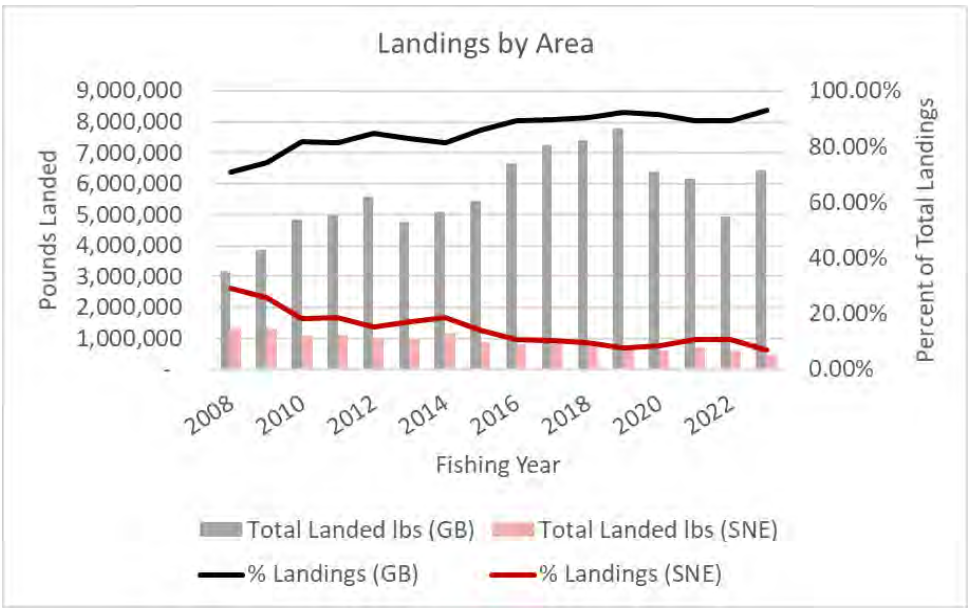

Figure 12. Trips by Stock Area for Federal LCMA 3 vessels, 2008-2023

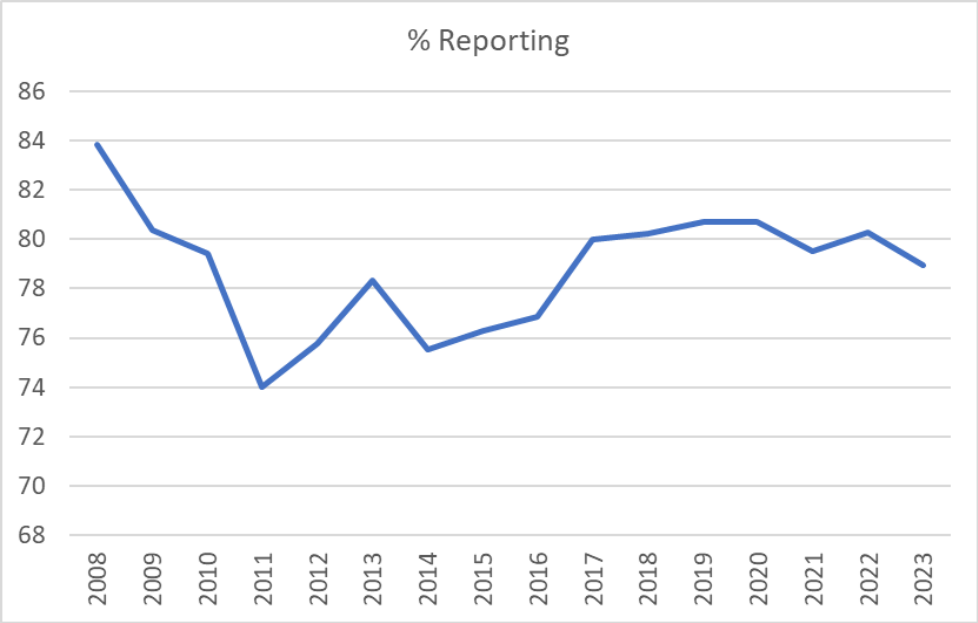

Figure 13. Percent of Federal LCMA 3 Vessel with VTR Requirement

LCMA 3 permit data were briefly reviewed during the June 25, 2024 PDT meeting. A number of LCMA 3 permits appeared to be issued to skiffs and, thus, are unlikely to be fishing in LCMA 3. There were some vessels based out of Massachusetts and Rhode Island without a federal reporting requirement that are likely active. Time did not allow the PDT to compare the activity of these vessels to federally reporting vessels.

Because the vast majority of LCMA 2 overlaps with the Southern New England stock, a similar analysis for LCMA 2 was not conducted.

f. *Changes in the Jonah Crab Fishery*

The development of the Jonah crab fishery is one component of the changes in the SNE lobster fishery since 2013. To better understand how the Jonah crab fishery has changed and how that relates to the lobster fishery, the PDT analyzed available data on Jonah crab landings and effort. There are several important caveats to this analysis. The first is that determining what trips should be considered directed Jonah crab trips is challenging due to the mixed-crustacean nature of the fishery where a single trip usually lands both lobster and Jonah crab. The PDT chose to categorize trips where Jonah crab landings were 80% or greater of the total landings of Jonah crab and lobster as directed Jonah crab trips. The second is that the Jonah crab fishery is heavily influenced by the market, which has been variable over the last several years. Industry members have commented that the Jonah crab landings in the late 2010s were abnormally high, and landings and trips landing Jonah crab have since declined significantly due to the lack of a market.

The PDT analysis shows that the majority of Jonah crab landings are caught in the SNE lobster stock area (Figure 14). The proportion of Jonah crab landings that come from the SNE stock

versus the GOM/GBK stock has not varied much, but shows a slightly decreasing trend since 2013 (Figure 15) .

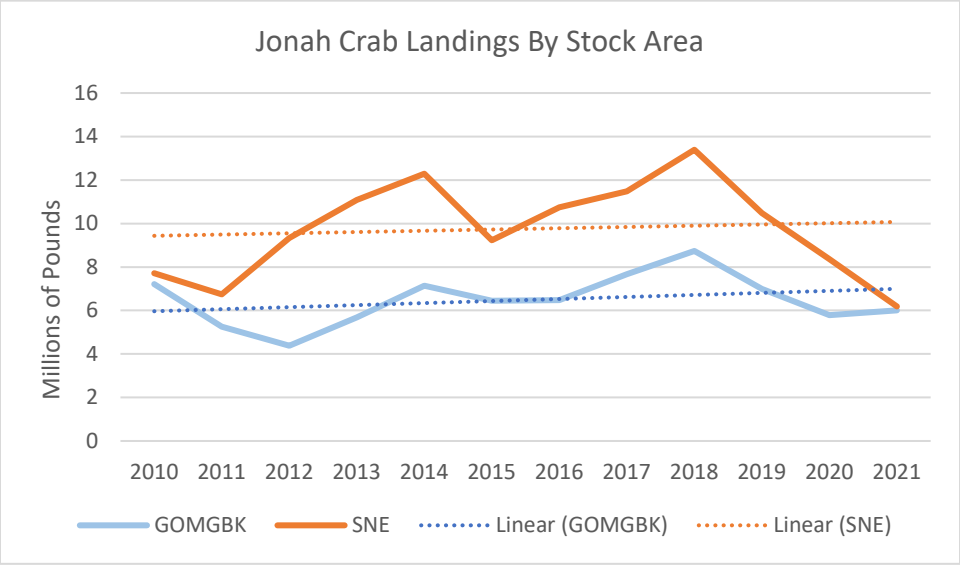

Figure 14. Jonah Crab Landings (in Pounds) by Lobster Stock Area

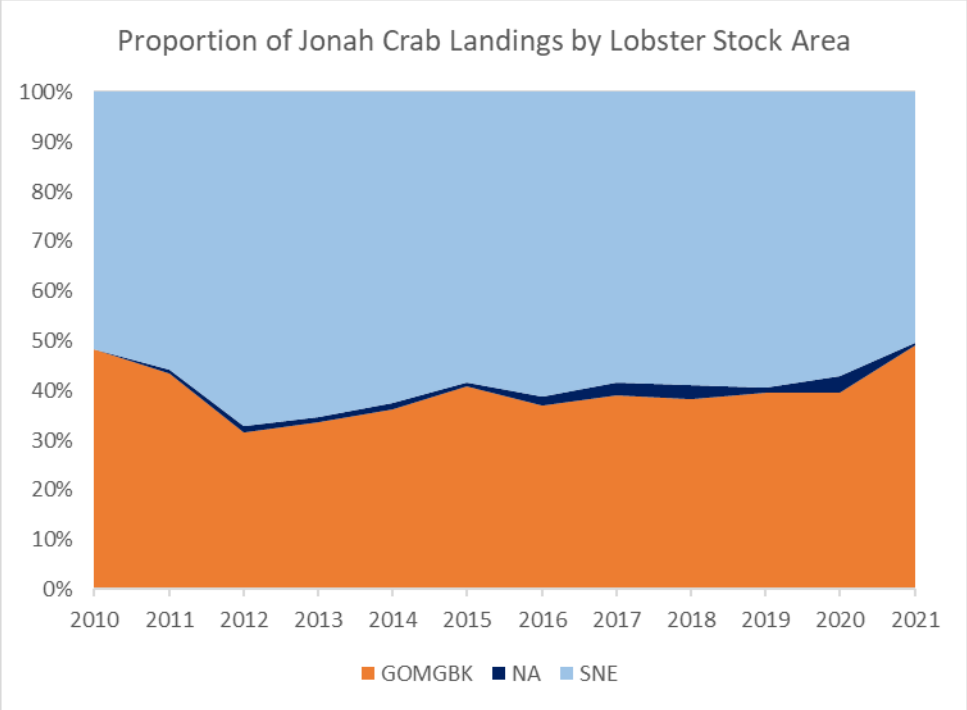

Figure 15. Proportion of Jonah Crab Landings by Lobster Stock Area

The number of trap/pot fishing trips landing any quantity of Jonah crab from the SNE lobster stock area increased from 2010 to around 2018, after which there has been a decline in the

number of trips landing Jonah crab (Figure 16). The number of trips landing Jonah crab from the GOM/GBK stock area has been variable: the highest number of trips occurred in 2010, declining thereafter until 2016, after which trips increased (with the exception of 2020).

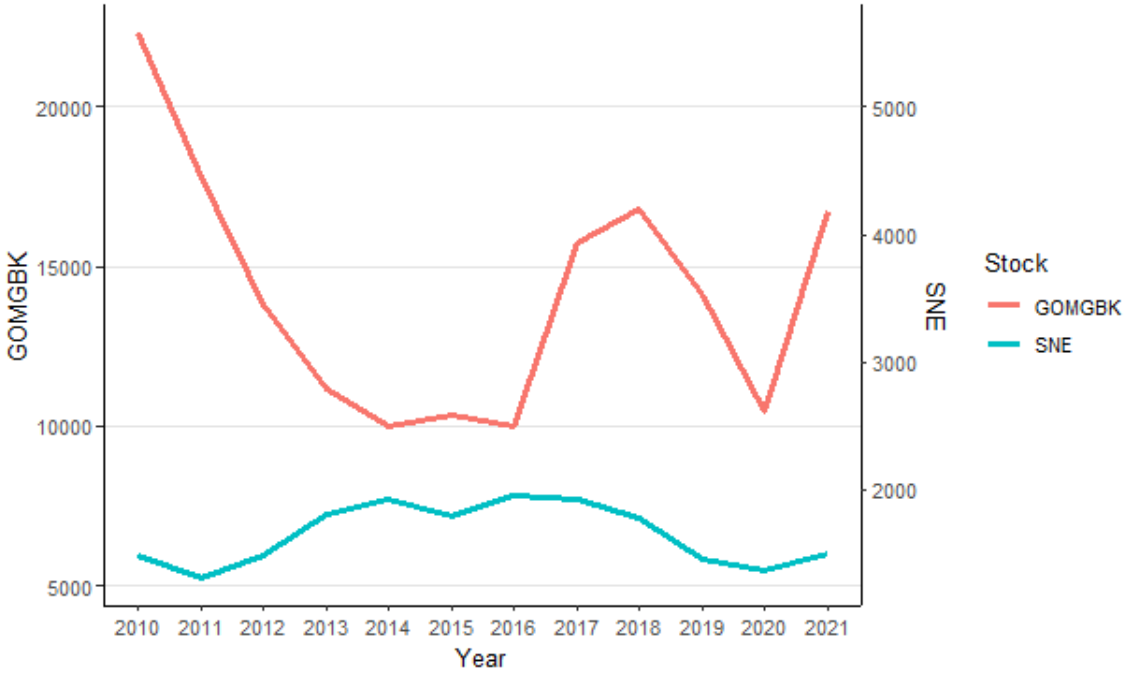

Figure 16. Number of trips per year landing Jonah crab in the SNE and GOM/GBK lobster stock areas. Data are limited to trips using Trap/Pot gear to land any quantity of Jonah crab, for ME, NH, MA, and RI. Massachusetts data are limited to statistical areas 526 and 537.

The number of directed Jonah crab trips (defined as trips where Jonah crab comprised ≥80% of the landings) was highest from 2014 to 2018 in SNE and has been decreasing since. The number of directed Jonah crab trips in the GOM/GBK stock area has been variable but declining overall since 2010 (Figure 17). These patterns in Jonah crab fishing effort and catch reflect a recent period of high harvest and marketability in SNE from 2013-2019, followed by a market-driven decline in recent years, and a more variable Jonah crab fishery in the GOMGBK region. There is not a clear relationship between the decline in SNE and changes in effort and catch in the GOMGBK stock area in the most recent years, which may be due to independent market factors influencing Jonah crab effort.

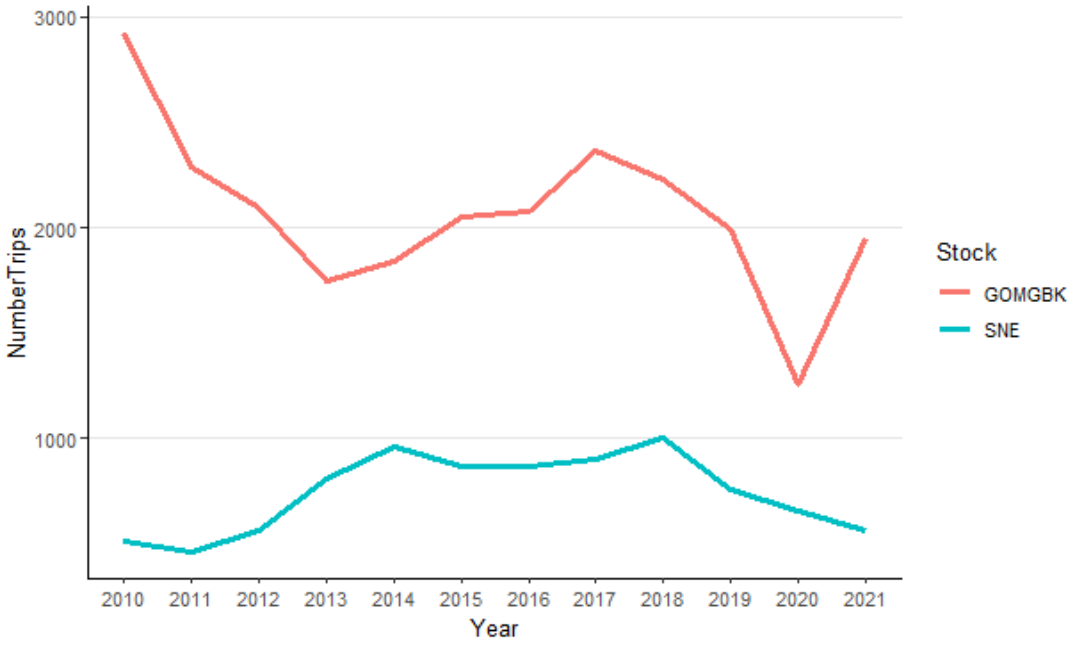

Figure 17. Number of directed Jonah crab trips made by vessels landing in ME, NH, MA, and RI (using 80% Jonah crab threshold), 2007-2021. Massachusetts data are limited to harvest occurring in statistical areas 537 and 526.

3. LCMT Input Considerations

Both of the LCMTs for LCMAs 2 and 3 met earlier this year to provide input to the Management Board on the implementation of the federal measures recommended in Addenda XXI and XXII. The LCMTs discussed the ways the fishery is different now than in 2013 when the addenda were approved, and the impacts the measures would have on the industry in the current context.

At the April 9, 2024 LCMT 2 meeting, it was noted that over the last several years, federal lobster permits have frequently been sold as part of other transactions that have resulted in the permits leaving the LCMA 2 fishery altogether, and this should reduce the concern that effort could increase above current levels in the future. The data assembled by the PDT indicates substantial declines in metrics for LCMA 2 (permits issued, traps permitted, maximum traps fished, and latent traps). The LCMT also recommended that the control date of May 1, 2022, as of which entities who exceeded the now-removed federal LCMA 2 ownership cap of 800-traps would be able to retain their trap allocations, should be revised or removed altogether. The PDT notes that creating a future control date (e.g., sometime in 2027) could cause speculation and an increase in effort if harvesters attempt to purchase more traps to bolster their allocations ahead of the date. If the Board does not wish to pursue ownership caps as part of its management strategy for LCMAs 2 and 3, no new control dates are necessary.

At the LCMT 3 meeting on June 20, 2024, the LCMT members stated that the SNE fishery has scaled itself back since 2013, with reduced effort also shifting east and moving to the Jonah

crab fishery. It was noted that logbook data would be able to show these shifts; the PDT did not have access to logbook data but agree with the LCMT that it would be helpful to look at these data. The LCMT recommended a survey be conducted to understand how much effort has moved out of the SNE stock and into GOM/GBK. They also stated that the ownership cap for LCMA 3 of five times the maximum trap cap is no longer needed because of how the fishery has changed, with consolidation already having occurred. The data assembled by the PDT indicate declines in most metrics analyzed, though notably a much smaller reduction in the maximum number of traps fished in LCMA 3 than observed in LCMA 2, and a recent increase in the number of latent traps in LCMA 3. In addition, data indicate a shift in effort and landings to the Gulf of Maine/Georges Bank portion of LCMA 3. The LCMT members also recommended analyzing the number of trap hauls occurring in SNE over time. To better understand the shift in effort away from lobster and toward Jonah crab, the LCMT recommended looking at the number of trips with landings that consist of 80% Jonah crab or greater. The PDT analysis using this method shows that trips with 80% Jonah crab landings or greater have declined since reaching a peak in SNE in 2018, and have declined overall in the GOM/GBK from 2010 to 2021.

4. Conclusions and Recommendations

a. *Available tools/measures and caveats*

The PDT reviewed a suite of input and output control measures that could be considered by the Board to reduce exploitation as an alternative to Addenda XXI and XXII measures. Each of these measures is accompanied by caveats related to the lobster fishery management structure and logistics, environmental and biological concerns, and economic concerns, as described below.

It is also noted that industry members have expressed the opinion that the SNE fishery has already been reduced sufficiently to respond to declines in the resource, and the measures outlined in Addenda XXI and XXII are not necessary given the status of the present-day fishery. Many of the measures presented below were also reviewed in Addendum XVII to Amendment 3 of the lobster FMP.

1. Seasonal and Spatial Closures

   The use of seasonal or spatial closures has been identified as a tool for consideration to reduce exploitation on the SNE stock. Closures during the summer season could reduce landings during a period of high exploitation for SNE. However, previous discussions have noted the reliance of the industry on the summer tourist season along with safety concerns related to constricting fishing to the fall, winter, and spring months. Spatial closures might provide some conservation benefit to the lobster stock, but the extent to which harvesters would simply move their gear outside of the closure area is unknown, and the relationship between spatial closure extent and exploitation cannot be predicted.

2. V-notching

Mandatory v-notching has been previously discussed as a means to reduce exploitation in SNE. Currently, v-notching is mandatory for all legal-sized egg-bearing females in LCMA 2 and is not required in LCMA 3. During the development of Addendum XVIII, the PDT and TC opposed increased v-notching requirements due to concerns that doing so would exacerbate skewed sex ratios in certain areas of SNE, and to the potential for increased bacterial infections from injuring lobsters in increasingly warm waters. Additionally, both of these measures would increase regulatory discards, with the potential for increasing fishing effort through increased trap hauls.

3. Output Controls: Trip Limits, Quota Systems

   Output controls, such as trip limits or quota-based management, were discussed as potential management measures to reduce exploitation on the SNE resource. While these measures might effectively reduce exploitation, they have historically garnered criticism because of the logistical difficulties in implementing and enforcing them. In a fishery managed using history-based trap allocations, trip limits could serve to nullify the trap allocation system under which the lobster fishery has been managed. It is also unclear how trip limits might be determined--considering the diversity in the size of lobster fishing operations--to allow for equity in reduced exploitation across harvesters. Compensatory behavior might also result from trip limits, causing an increase in trips taken. Quota-based management has also been proposed, under which individual harvesters would have an annual catch allowance. However, there are enforcement and compliance concerns related to managing the SNE stock with a quota, particularly if the GOM/GBK is not managed the same way. Additionally, the data management and reporting requirements needed to manage a quota for a fishery with a large number of small vessels who may sell directly to the consumer creates logistical challenges that would need to be addressed.

4. Reductions in Latent Effort

   If the Board wishes to further reduce the potential for activation of latent effort, efforts could be undertaken to remove latent permits and/or traps from the fishery. Such action would likely require re-qualification of permits or limited entry programs based on documented recent fishing effort. While such efforts may prevent the activation of additional, future effort, the removal of inactive traps from the fishery is likely to do little to improve the condition of the SNE stock.

Area 3 Lobster Conservation Management Team (LCMT) Virtual Meeting Summary
June 20, 2024

LCMT Member Attendees: Jonathan Shafmaster and Hank Soule (his alternate), Grant Moore, Joe Clancy, Dennis Colbert.

State, NMFS, and ASMFC Attendees: Caitlin Starks, Dan McKiernan, Tracy Pugh, Jared Silva, Megan Ware, Cheri Patterson, Josh Carloni, Corinne Truesdale, Alli Murphy, 2 NOAA Fisheries interns

Dan McKiernan chaired the meeting and welcomed the members. He noted that the LCMT has been reconstituted with input from state Directors from states with active permit holders.

Dan led the initial discussion on the background of Addenda XXI and XXII, which were adopted by ASMFC in 2013, to scale the Southern New England (SNE) fishery to the diminished size of the stock. Dan explained to the team that the Plan Development Team is working behind the scenes to analyze available data to determine whether the goals of Addendums 21 and 22 were met. He noted that the fishery has changed over the past 11 years and there are challenges in compiling and assessing data to describe those changes.

Caitlin went through a presentation on the Plan Development Team (PDT) Report from the April lobster board meeting. This presentation contains background information on Addenda XXI and XXII, the delayed implementation, board task for the PDT, preliminary data analysis by the PDT, and proposed NOAA Fisheries rule.

LCMT and meeting participants had a lengthy discussion raising several valuable points and areas for further analysis. The key points discussed included:

- It is important to consider transferred permits and the geographic location they operated in before and after the transfer. There is likely movement of activity between stock areas with a net migration of fishing operations moving east and north resulting in reduced effort in SNE.
- There was a lengthy discussion about the limitations of the data and challenges of data analysis for LMA 3. The issues include a historic lack of comprehensive reporting on federal VTRs and imprecise area reporting on VTRs for the time period in question. While eVTR's are now mandatory along with vessel trackers, these data are only available for the past year and cannot reveal decade long trends that are warranted to resolve the issues at hand. It was suggested that it might be useful and more accurate to survey the permit holders to get at some of the needed information (however anecdotal) on where fishing was occurring over time.
- Any data analysis should start with 2013 based on the approval time of Addenda XXI and XXII.
- There was a suggestion to quantify latent traps in LMA 3, particularly in the SNE stock area if possible.
- In addition to documenting the relative percent changes in effort both in traps and trips, it would be valuable to see the actual counts as well.
- It would be worthwhile to look at the lower trap allocations and see if they are being actively fished. It was suggested that many of these permits with small allocations are

permits that may be actively fishing in another inshore LMA (Area 1, OCC or Area 2, 4 or 5). If that is the case then the traps are not truly "latent".

- Ownership caps that were designed to maintain an "owner operator" feature of many of the Area 3 fishing businesses are not necessary anymore as consolidation has already occurred.

Dan requested the team elect a chair at the next Area 3 LCMT meeting.

Summary prepared by Dan McKiernan and Story Reed, MA DMF

Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **American Lobster Management Board**

FROM: **Dr. Amanda R. Lindsay; Assistant Professor of Economics, Bates College**

DATE: **July 16, 2024**

SUBJECT: **Considerations of Addendum XXVII Analyses**

I am writing to offer my expertise and assistance in the review and consideration of estimated impacts of Addendum XXVII. I am an assistant professor of economics at Bates College, and I specialize in bioeconomic modeling and management of marine fisheries. New to Maine, I have spent the past year learning about Maine's lobster fishery by attending Maine State level zone council meetings and the Maine Fishermen's Forum, and interviewing lobstermen and co-op management. I have not been involved in existing ex ante impact evaluations of Addendum XXVII, but rather, was approached by Commission staff to help contextualize and interpret existing analyses. In this memorandum, I have outlined my initial thoughts by emphasizing important methodological considerations, interpreting some of the noted limitations, and pointing to a few additional concerns.

Professor Michael Donihue, Colby College, performed a brief economic impact analysis of Addendum XXVII in April 2024. I have read that analysis carefully and additionally looked over publicly available materials related to his previous "Dollars to Lobsters" research. Given the expediency of this important policy question, his ability to perform a rigorous analysis was limited. He identified most of the limitations of his evaluation and I believe the brief statement adequately summarized the key points of a complex analysis.

Summarizing recent related work: In 2016, Professor Donihue collected economic data from a representative sample of lobster dealers across the state. Those data were used to estimate the economic impact and multipliers (standard macroeconomic indicators) associated with lobster distributors. The software used in this analysis (IMPLAN) is a widely used platform to carry out this type of analysis. It allows users to create customizable models of economies using an Input-Output framework. This same software was used in the 2023 Seafood Economic Accelerator for Maine report (of which he was not a contributor). Unlike Donihue's work, this newer study focused on the economic impact of harvesters. That is to say – the two studies used the same methods, with different data, to model different sectors of the lobster fishery and their contribution to Maine's economy.

His recent analysis of the impact of Addendum XXVII used the same modeling software used in the two prior reports. He focuses on the impact associated with harvesters and does not include the downstream enterprises (wholesalers, distributors, retail, restaurants). While it is not specified, I would guess the model uses data also used in one or both of these earlier analyses. To estimate the impact of the policy, he would have used the model, calibrated in one of these earlier studies, to serve as a baseline. Then he would have introduced a change to the model (a shock), mimicking the way addendum would affect the economy. The model would be asked to find a new equilibrium, and then compared to baseline conditions to estimate the impact of the policy.

He modeled the shock (approximating the impact of Addendum XXVII) would lead to an exogenous 10% reduction in landings value. This 10% reduction is an assumption. Professor Donihue notes that he does not know what the true reduction in value of lobster landings would be, but suggests this is a reasonable guess, based on DMR data from 2016-2021. Based on my understanding of the DMR data, I agree it is a reasonable guess.

Professor Donihue notes several caveats and limitations of his analysis, I want to draw attention to a few that I believe are particularly important:

1. His estimate does not include the likely negative impact Addendum XXVII felt by distributors and downstream sectors. While this sector was the focus of his 2016 study, changes in the industry since that analysis may affect the accuracy of estimates. I believe this is in part why his April 2024 analysis focuses on the impact to harvesters and the Maine economy. It would be reasonable to assume that the proposed policy would negatively impact downstream sectors, but it is difficult to estimate the magnitude of the impact without updated data.

2. His model does not include Canadian harvesters who draw from the same stock, compete in the same market, but are subject to different regulations. If Canadian harvesters are able to provide the desirable small lobsters to the market, it could magnify losses through declined demand for Maine lobster.

3. His model does not account for changes in fishing strategy (e.g. location, intensity, soak time). It is difficult to represent this type of behavioral response using his modeling framework, typically microeconomic methods would be used for this type of analysis.

There is another important limitation not mentioned in his analysis: his methods rely on a static model of the economy and cannot therefore estimate the dynamic impact of the regulation. His approach uses equilibrium "snapshots" of the economy and cannot tell us how long harvesters will endure decreased landings, or how harvester welfare changes with the health of the lobster stock. The model he uses for analysis is not designed to answer these salient questions.[1]

The commission's lobster technical committee also provided an analysis of Addendum XXVII on catch. To my understanding, they used a detailed population model, created using data from 2020 stock assessments, to find biological equilibriums under current and possible regulatory changes. From my understanding of their results, I believe the technical committee's findings support Professor Donihue's choice to model the policy impact as decreasing landings value by 10%.[2] Though in the discussion of their analysis, the technical committee's report concludes that the reductions in catch immediately following the regulation will be made up for in gains from increased spawning stock biomass.[3] Their analysis highlights that what lobstermen might lose in terms of the number of harvested lobsters will be made up for in weight and stock resiliency, but not the timeframe in which gains would be realized.

[1] The methods he uses are specifically designed to estimate macroeconomic impacts and summarize direct and indirect relationships in the economy. These are things that microeconomic models cannot do.

[2] The report notes that in LMAC1, "Increasing legal size would result in moderate to large decreases in exploitation as more of the stock becomes protected (Table 4) with exploitation decreasing by nearly 30% at a minimum legal size of 88mm". (Page 31 of Draft Addendum XXVII 2022 Board Review)

[3] "Thus, changes to minimum size would dramatically change the length composition of the catch. Increases in the minimum size will have temporarily but significantly depress landing in the years immediately after are implemented but the benefits to SSB would be similarly immediate." (Page 34-35).

I do not think that the findings from the technical commission contradicts the analysis from Professor Donihue. There is reason to believe that the market may not be receptive to larger lobsters, and so that change in demographics of the harvest could have negative economic consequences. Given that lobsters take several years to reach commercial size, it is also not clear how long it would take for fishermen to benefit from improved spawning stock biomass.

Both of these analyses are estimating the impact of Addendum XXVII, focusing on very different aspects of the policy and the social ecological system. I think both are informed by the best available data.

However, that is not to say we have a clear and complete picture of the social ecological system. There are a lot of unknowns with respect to the regional and international markets, the behavior response of fishermen, and the linkage these economic systems have to the lobster stock. Because both analyses rely on equilibrium methods, neither answers important dynamic questions such as how long and how severely will this regulation impact fishermen and broader economies. These regulation changes could benefit the health and resiliency of the stock, but we do not know how quickly those benefits will manifest, and how those biological gains would affect the welfare of lobstermen. I believe these are very important policy questions which have not yet been considered.

I hope that this document illuminates the points made by others, and helps in your deliberations. Please do not hesitate to reach out with any questions or concerns, I am happy to engage in further conversation.

Economic Impact Analysis of an
Increase in the Lobster Minimum Gauge Size on Maine's Economy

by
Michael Donihue, Ph.D.
Professor of Economics and Director of the
Laboratory for Economic Studies at Colby College

April 2024

In May 2023, the Atlantic States Marine Fisheries Commission (ASMFC) establishing a trigger protocol (Addendum XXVII) for the harvesting of lobsters in the Gulf of Maine and Georges Bank (GOM/GBK). The ASMFC regulation seeks to increase the harvestable lobster carapace gauge length and trap escape vent size with a goal of protecting the lobster spawning stock in these waters. The increased minimum gauge size was to go into effect on June 1, 2024. ASMFC's action was based on two key observations:[†]

- ✓ Since the early 2000s, lobster harvests from the GOM/GBK waters have increased.
- ✓ Since 2012, surveys of the juvenile lobster population in the GOM suggest that the spawning stock has decreased.

There is considerable debate among harvesters and policy makers, particularly in Maine, as to the impact of the trigger protocol on the industry and the accuracy of the survey data on which the ASMFC Board's regulatory action was made. In October 2023, ASMFC delayed implementation of the trigger protocol until January 1, 2025 in response to concerns of harvesters and a request from Maine's DMR Commissioner Patrick Keliher. Of particular concern to Maine's lobster harvesters is the fact that the ASMFC regulations would not apply to Canadian harvesters.

Earlier this month, representatives from the New England Fishermen's Stewardship Association (NEFSA) and several Maine lobster dealers approached me about the feasibility of providing an update to my previous economic impact study of Maine's wholesale distribution network and an estimate of the potential impact of the ASMFC trigger protocol on the entire industry. My Lobsters to Dollars study was based on interviews and data from 2016 provided by a representative sample of lobster dealers across the state. I found that, at that time, the economic impacts of the lobster dealer wholesale distribution network in Maine totaled just under $1 billion and supported approximately 5,600 jobs. My study was confined to just one segment of Maine's lobster industry supply chain and did not include the economic footprint of harvesters, nor the contributions attributable to 'downstream' enterprises in the value chain represented by processors, retailers, and restaurants.

A study of the State's entire commercial seafood industry prepared for the Seafood Economic Accelerator of Maine in January 2023[‡] estimated the economic impact of Maine's lobster harvesters to be $852.5 million in total value added while supporting more than 6,500 jobs. That study did not estimate impacts attributable to Maine's wholesale distribution network.

A comprehensive economic impact study of the ASMFC trigger protocol would require a careful assessment of the ways in which harvesters would react in terms of their fishing intensity, capital investments in traps and equipment, and how much of their harvest would be impacted by an increase

[†]See: http://www.asmfc.org/species/american-lobster
[‡]See: https://www.seamaine.org/wp-content/uploads/2023/03/FINAL-SEAMaine-Economic-Impact-Analysis-Report-2.pdf

in the legal carapace gauge length. Smaller lobsters may make up an important portion of total landings as one-pound "chicken lobsters" feature in the sales of many restaurants in Maine. Furthermore, there are more processors in the state than when I did my study and the impact of a significant reduction in this portion of the harvest is unknowable without conversations and field research that included these businesses.

Complicating the analysis, and presumably magnifying the negative externalities associated with the new regulation, is the fact that Canadian harvesters fish in the same waters as Maine lobstermen yet would not be subject to the ASMFC gauge length increase.

To get a sense for the multiplicative impact of a reduction in lobster landings that might result from ASMFC's new trigger protocol I focused on just the 'backward' or 'upstream' linkages for harvesters along Maine's lobster supply chain. I employed the same IMPLAN modeling environment that I used in my Lobsters to Dollars study and, coincidentally, also used for the January 2023 Maine commercial seafood industry impact report

The current minimum carapace gauge length for Maine lobsters is 83mm. Under the ASMFC trigger protocol, the minimum length would increase to 86mm (in two stages). Sampling data provided by Maine's Department of Marine Resources for 2016-2021 indicate that just over 10 percent of the harvest measured 83mm over this period and would therefore be illegal with the gauge increase. More than a third of the sampled landings during this period had a carapace length measuring between 83mm and 86mm.

I estimate that a ten percent decrease in the value of lobster landings in 2022 would have resulted in a loss of just over 680 jobs and $59.6 million to Maine's economy. Again, these impacts apply just to the economic activity attributable to the harvesters and those upstream enterprises in the value chain. All of the negative impacts on the downstream portion of the supply chain – the wholesale distribution network, processors, retailers, and restaurants – would be *in addition* to my estimates.

The table below disaggregates the total impact of a 10 percent reduction in the value of landings in 2022 into the direct effect (10% of landings in 2022 equals $39.2 million), indirect effects representing economic losses to upstream businesses from whom harvesters purchase equipment and services, and the induced effects of lost labor income on Maine's economy.

State-wide Economic Impacts of a
10% Reduction in the Value of Lobster Landings on Maine's Economy
(Millions of 2024 dollars)

Impact	Employment	Labor Income	Value Added	Output
Direct	–574	–$22.7	–$39.0	–$39.2
Indirect	–1	–$0.045	–$0.085	–$0.168
Induced	–112	–$6.3	–$12.1	–$20.2
TOTAL	**–686**	–$29.0	–$51.2	**–$59.6**

Atlantic States Marine Fisheries Commission

DRAFT ADDENDUM XXX TO AMENDMENT 3 TO THE AMERICAN LOBSTER FISHERY MANAGEMENT PLAN FOR PUBLIC COMMENT

Foreign Import Minimum Size Recommendation

March 2024

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

Public Comment Process and Proposed Timeline
In May 2023, the Board approved Addendum XXVII, which establishes a trigger mechanism to implement management measures – specifically gauge and escape vent sizes – to provide additional protection of the Gulf of Maine/Georges Bank (GOM/GBK) spawning stock biomass (SSB). Under Addendum XXVII, changes to the current gauge and escape vent sizes in Lobster Conservation Management Area (LCMA) 1 (inshore Gulf of Maine) will begin January 1, 2025, starting with an increase to the minimum gauge size in LCMA 1 from 3 ¼" to 3 $^{5}/_{16}$" followed by a second increase January 1, 2027, to 3 $^{3}/_{8}$". With these changes the LCMA 1 minimum gauge size will be the smallest minimum gauge size in effect.

Draft Addendum XXX does not present a range of management alternatives. Rather, it is an administrative document that clarifies how the Commission will recommend to NOAA Fisheries the implementation of the change in the LCMA 1 minimum gauge size and the implication on imports per the Mitchell Provision of the Magnuson Steven Act (see section 2.1).

The public is encouraged to submit comments regarding the administrative intention in this document at any time during the addendum process. The final date comments will be accepted is **June 3, 2024 at 11:59 p.m**. **EST.** Comments may be submitted by mail, or email. If you have any questions or would like to submit comments, please use the contact information below.

Mail: Caitlin Starks
Atlantic States Marine Fisheries Commission
1050 N. Highland St. Suite 200A-N
Arlington, VA 22201

Email: comments@asmfc.org
(Subject line: Lobster Draft Addendum XXX)

Date	Action
January 2024	Board initiated the Draft Addendum XXX
February 2024	Plan Development Team (PDT) developed Draft Addendum document
March 2024	Board review and approval of Draft Addendum XXX for public comment
March-June 2024	Public comment period
August 2024	Board reviews public comment, selects management measures, final approval of Addendum XXX

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1.0 Introduction

The Atlantic States Marine Fisheries Commission (ASMFC) has coordinated the interstate management of American lobster (*Homarus americanus)* from 0-3 miles offshore since 1996. American lobster is currently managed under Amendment 3 and Addenda I-XXVI to the Fishery Management Plan (FMP). Management authority in the Exclusive Economic Zone (EEZ) from 3-200 miles from shore lies with NOAA Fisheries. The management unit includes all coastal migratory stocks between Maine and Virginia. Within the management unit there are seven lobster conservation management areas (LCMAs): Inshore and offshore GOM (Area 1), Inshore SNE (Area 2), Offshore Waters (Area 3), Inshore and offshore Northern Mid-Atlantic (Area 4), Inshore and offshore Southern Mid-Atlantic (Area 5), Long Island Sound (Area 6) and Outer Cape Cod) (Figure 1). The Commission implements management measures (gauge sizes, vent size, trap limits, seasons, etc.) specific to each LCMA (Table 1). The FMP prohibits the minimum gauge size of any LCMA to be lower than 3 ¼ inches carapace length.

The Magnuson-Stevens Act (MSA) prohibits imports of whole live lobster smaller than the minimum possession size in effect at the time under the Commission's American lobster management program. This provision, referred to as the Mitchell Provision, was passed to prevent imports of lobster smaller than those harvested by United States (US) fishermen. The current minimum gauge size for LCMA 1 (inshore Gulf of Maine) is 3 ¼ inch, which is the smallest minimum size in effect for the US lobster fishery.

Under Addendum XXVII, changes to the current minimum size in LCMA 1 will begin January 1, 2025, starting with an increase from 3 ¼" to 3 $^{5}/_{16}$". Thus, starting in January 2025, 3 $^{5}/_{16}$" will be the smallest minimum size in effect.

The purpose of this addendum is to provide detail to the public on what the Commission's recommendation to NOAA fisheries will be regarding the smallest minimum size in effect and how it is interpreted under the Mitchell Provision as the minimum gauge size increases occur in LCMA 1 in 2025 and 2027.

2.0 Background

2.1 Mitchell Provision

The Mitchell Provision prohibits imports of whole live lobster smaller than the minimum possession size in effect at the time under the Commission's American lobster management program in order to prevent imports of lobster smaller than those that can be legally harvested by the US industry. Signed into law in 1989, it states "it is unlawful for any person to ship, transport, offer for sale, sell, or purchase, in interstate or foreign commerce, any whole live lobster of the species Homarus americanus, that is smaller than the minimum possession size in effect at the time under the American Lobster Fishery Management Plan, as implemented by regulations published in part 649 of title 50, Code of Federal Regulations, or any successor to that plan implemented under this title, or in the absence of any such plan, is smaller than the minimum possession size in effect at the time under a coastal fishery management plan for

American lobster adopted by the Atlantic States Marine Fisheries Commission under the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA)."

In a final rule published December 6, 1999, NOAA Fisheries withdrew the approval for the federal American Lobster FMP because the majority of the lobster fishery takes place in state waters. The final rule transferred regulations for management of the lobster fishery under the MSA (50 CFR part 649) to the ACFCMA (50 CFR part 697). Therefore, the Mitchell Provision language means it is unlawful for any person to ship, transport, offer for sale, sell, or purchase, in interstate or foreign commerce, any whole live lobster smaller than the minimum possession size in effect under the Commission's FMP for American lobster.

The current LCMA 1 minimum gauge size of 3 ¼" is the smallest minimum gauge size in effect at this time (February 2024). Therefore, when the LCMA 1 minimum gauge size increases to 3 $^{5}/_{16}$" for January 1, 2025, the smallest minimum gauge size in effect will be 3 $^{5}/_{16}$". On January 1, 2027 the LCMA 1 minimum size will increase to 3 $^{3}/_{8}$", consistent with all other LCMAs except LCMA 3; therefore, the smallest minimum size in effect will be 3 $^{3}/_{8}$".

2.1.1 Enforcement Concerns

The Law Enforcement Committee (LEC) has commented that if imports were allowed to be smaller than the minimum gauge size in effect in the US, it would create additional challenges for enforcement. In particular, it would open up opportunities for the illegal sale of US caught lobster that are below the legal minimum size in the US. The LEC noted that enforcing the size differences when lobsters enter the United States from Canada at the Border is not as much of a challenge; however, once the lobster arrive to a dealer in the US, they are usually comingled for sale, and it would be difficult to maintain separation of US and non-US origin lobster.

3.0 Proposed Recommendation to NOAA Fisheries

It is the intention of the Commission to recommend to NOAA Fisheries that as changes to the minimum gauge size in LCMA 1 are required by Addendum XXVII, the smallest minimum size for foreign imports would match the smallest minimum size in effect for the US industry. Therefore, the scheduled 2025 and 2027 changes in the minimum gauge size for LCMA 1 would impact size restrictions for imported lobster. Imports of whole live lobster smaller than 3 $^{5}/_{16}$" would be prohibited after January 1, 2025, and lobster smaller than 3 $^{3}/_{8}$" would be prohibited after January 1, 2027. This is consistent with the Mitchell Provision of the MSA. This recommendation would be forwarded to NOAA Fisheries after approval of the draft addendum.

4.0 References

Atlantic States Marine Fisheries Commission (ASMFC). 1997. Amendment 3 to the Interstate Fishery Management Plan for American Lobster.

ASMFC. 2020. American Lobster Benchmark Stock Assessment and Peer Review Report.

ASMFC. 2023. Addendum XXVII to Amendment 3 to the Interstate Fishery Management Plan for American Lobster.

5.0 Tables and Figures

Table 1. Existing LCMA specific management measures.

Mgmt. Measure	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	OCC
Min Gauge Size	3 1/4"	3 3/8"	3 17/32"	3 3/8"	3 3/8"	3 3/8"	3 3/8"
Vent Rect.	1 15/16 x 5 3/4"	2 x 5 3/4"	2 1/16 x 5 3/4"	2 x 5 3/4"	2 x 5 3/4"	2 x 5 3/4"	2 x 5 3/4"
Vent Cir.	2 7/16"	2 5/8"	2 11/16"	2 5/8"	2 5/8"	2 5/8"	2 5/8"
V-notch requirement	Mandatory for all eggers	Mandatory for all legal size eggers	Mandatory for all eggers above 42°30'	Mandatory for all eggers in federal waters. No V-notching in state waters.	Mandatory for all eggers	None	None
V-notch Definition[1] (possession)	Zero Tolerance	1/8" with or w/out setal hairs[1]	1/8" with or w/out setal hairs[1]	1/8" with or w/out setal hairs[1]	1/8" with or w/out setal hairs[1]	1/8" with or w/out setal hairs[1]	State Permitted fisherman in state waters 1/4" without setal hairs Federal Permit holders 1/8" with or w/out setal hairs[1]
Max. Gauge (male & female)	5"	5 ¼"	6 3/4"	5 ¼"	5 ¼"	5 ¼"	State Waters none Federal Waters 6 3/4"
Season Closure				April 30-May 31[2]	February 1-March 31[3]	Sept 8-Nov 28	February 1-April 30

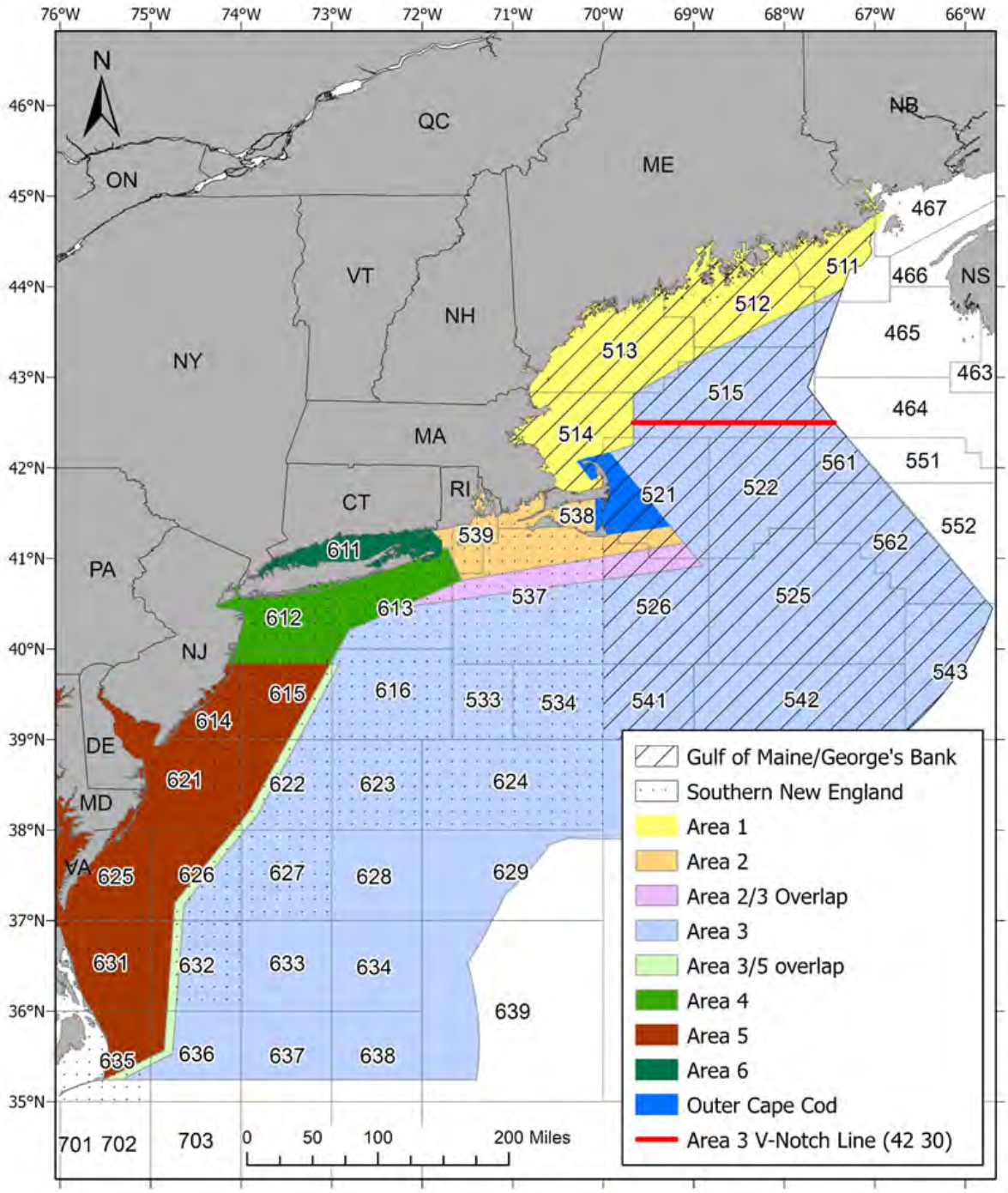

Figure 1. Lobster conservation management areas (LCMAs) in the American lobster fishery. LCMAs 1, 3, and OCC make of the majority of the GOM/GBK stock. The Area 3 V-Notch line is shown in red where v-notching is required north of the 42°30' line.

Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **American Lobster Management Board**

FROM: **Caitlin Starks, Senior FMP Coordinator**

DATE: **July 24, 2024**

SUBJECT: **Public Comment on Draft Addendum XXX to Amendment 3 to the American Lobster Fishery Management Plan**

The following pages represent a draft summary of all public comments received by ASMFC on American Lobster Draft Addendum XXX as of 11:59 PM (EST) on June 3, 2024 (closing deadline).

Comment totals for the Draft Addendum are provided in the table below, followed by summaries of the state public hearings, and written comments sent by organizations and individuals. A total of 117 written comments were received. These included 13 letters from organizations, and the remainder from individual stakeholders. Two virtual public hearings were held. The total public attendance across the hearings was 35, though some individuals attended multiple public hearings. Five public comments were provided during the public hearings.

The following tables are provided to give the Board an overview of the support for or opposition to the proposed action in Draft Addendum XXX. Additional comments that did not specify the position of the commenter are included in the public hearing summaries and written comments. Other comments unrelated to this action are counted in a separate "other" category. Prevailing themes from the comments are highlighted below, including general considerations and rationales for support or opposition.

Table 1. Total Written Comments Submitted to ASMFC

Total Comments Received	
Organization Letters	13
Individual Comments	104
Total Written Comments	**117**

Table 2. Comments on Draft Addendum XXX

Management Options	Public Hearings	Letters	Individual Comments	Total
Support Draft Addendum XXX	3	4	3	**10**
Oppose Draft Addendum XXX	0	5	1	**6**
Other	2	3	98	**103**

Rationales for Support of Addendum XXX

- Imports should be required to be the same size as US-caught lobster because if they are allowed to be smaller the lobstermen here would be at a huge disadvantage, would lose money and be put out of business.
- The increase in gauge size is already going to have economic impacts to the US lobster fishery, and allowing imports to be smaller than the new gauge size would make the impacts worse.

Rationales for Opposition to Addendum XXX

- More information is needed on economic impact of the minimum gauge size change for processors.
- Restricting foreign imports to the US minimum size would disincentivize processors from operating in the US. Canada and US should have the same gauge sizes.
- "Chick" lobster make up a large portion of processors' business and this Addendum would take that away.
- The 3 ¼" "coastwide" minimum size should be used as the minimum size in effect that would apply to imports.
- Canadian dealers purchasing directly from fishermen lack the workforce and facilities to physically grade large volumes of lobsters for carapace length.
- U.S. processing plants now source lobsters directly from primary dealers in Newfoundland, Magdalene Islands, Quebec, Cape Breton, and Nova Scotia in May and June. They can thus operate their plants for 8-10 weeks before landings in the U.S. reach a economically feasible level.
    - It's estimated that U.S. plants utilize 11-12,000,000 lbs of Canadian lobsters in May and June to support their processing operations.
- The North Atlantic Lobster Alliance (NALA) comments that Addendum XXX threatens to disrupt the current and necessary supply of Canadian lobsters, and threatens the continued existence of several of its members due to the significant adverse economic impacts.
    - NALA estimates US lobster processors and dealers would experience a 20M lb. reduction in imports of Canadian lobster, and a loss of $128M attributed to the domestic industry.
- If US processing capacity is lost due to the reductions in supply during May-June, it will have long term negative consequences for the industry.
- The import restriction will cause supply to back up and value for US harvesters.

General Considerations

- Canada provided comments on the Addendum that seek clarification on several issues:
    - It is unclear whether the proposed import restriction is necessary to protect animal or plant life or health, the protection of the environment, or to address enforcement challenges within the US.
    - How and when will the Commission know whether the proposed import restriction is achieving its intended objective?
    - What alternatives has the US considered in the development of this proposal?
    - Will the proposed measure apply to lobster travelling in-bond?
- Canada also encourages the US to consider our mutual obligations under the Canada-United States-Mexico Agreement (CUSMA) and the Agreement on Technical Barriers to Trade, and to consider less restrictive trade measures that would achieve the policy objective.

Other Comments

- The minimum gauge size should change for Canada and the US at the same time.
- Lobstermen who catch lobster (at the 3 ¼" size) in the fall and hold them for sale until the following year should be allowed a waiver until April of 2025 to sell the lobster after the new gauge size is implemented.
- US fishermen should not have to throw back lobsters that Canadian fishermen can catch.
- Larger lobsters should be protected instead of sub-legals because they have higher fecundity.
- Restrictions on the size of imports of cooked lobsters should be considered.
- The lobster fishery is overfished and the trap limit should be reduced to 400.
- There should be a 600-trap limit instead of increasing the gauge.
- Previous gauge increases did not put people out of business, nor will this one.
- The 24/7 provision of the lobster vessel tracking requirement should be removed.
- The large majority of other comments expressed opposition to increasing the LCMA 1 minimum gauge size. A number of reasons for this view were given.
    - Harvesters are seeing more lobsters now than ever, especially undersize lobsters, and egg-bearing females.
    - Lobsters are moving offshore, the population is not decreasing.
    - The gauge increase will have significant impacts for processors.
    - Economic studies should be conducted to better understand impacts to the fishery.
    - It is frustrating that Canada can already catch lobster larger than the US allows.
    - Canada will take over the "chick" market if the US gauge size increases.

American Lobster Draft Addendum XXX Public Hearing

Webinar Hearing

April 9, 2024

23 Public Participants

Commissioners: David Borden (RI), Colleen Bouffard (CT), Ray Kane (MA), Pat Keliher (ME), Dan McKiernan (MA), Jason McNamee (RI), Nichola Meserve (MA), Megan Ware (ME)

ASMFC & State Staff: Caitlin Starks (ASMFC), Toni Kerns (ASMFC), Kerry Allard (MA), Justin Pellegrino (NY), Kathleen Reardon (ME), Chris Scott (NY), Allison Murphy (NOAA)

Hearing Overview

- No comments were provided.
- Questions were raised about enforcement of the minimum size in states without lobster fisheries, for example, non-coastal states. The general understanding is that the minimum size is enforced at the point of import.

Addendum XXX Hearing Attendance, April 9, 2024		
First Name	**Last Name**	**Email Address**
Kerry	Allard	kerry.allard@mass.gov
DAVID	BORDEN	LIZZY.2@CHARTER.NET
Andrew	Balser	cpinkham86@yahoo.com
Jeffrey	Bartlett	jbartlettmlafish@gmail.com
Colleen	Bouffard	colleen.bouffard@ct.gov
Curt	Brown	cbrown@readyseafood.com
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Chris	Cash	christina.cash@maine.edu
Beth	Casoni (MLA)	beth.casoni@gmail.com
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hank	soule	hank@offshorelobster.org
john	whiteside	john@jwhiteside.com

American Lobster Draft Addendum XXX Public Hearing

Webinar Hearing
May 6, 2024
12 Public Participants

Commissioners: Cheri Patterson (NH), Doug Grout (NH), David Borden (RI)

ASMFC & State Staff: Caitlin Starks (ASMFC), Toni Kerns (ASMFC), Renee Zobel (NH), Allison Murphy (NOAA)

Hearing Overview

- Five comments were provided.
- Three comments agreed that the size of imports should be the same as the US minimum size for the industry, or else there will be negative effects for the US lobster harvesters.
- Two commented on the increase in the LCMA 1 minimum gauge size required under Addendum XXVII, stating that they oppose any change to the current gauge size.

Summary of Comments

Mike Flanigan

- Strongly opposes any change to the gauge size.
- Has been lobstering for 65 years and was one of the first ones from New Hampshire to go offshore.
- There are more lobsters now than ever. If the measure is increased the lobster harvesters are all done. The gauge of 3 ¼ inches works. Don't touch it. Some cannot afford the increase.
- The lobsters here do not stay here, they move and go offshore.

Eric Anderson

- Supports the previous comments from Mike.
- Agrees that Canada needs to cull their lobster to be the same size as the US, and imports should comply with the Mitchell provision.

Ellen Goethal

- We must keep imports same size as US Lobster. This is incredibly important because if imports are smaller, the lobstermen here will lose money and it will put them out of business.

Joshua Ford

- Restrictions on the size of imports of cooked lobsters should be considered.

Bobby Nudd

- Considering the economic impact the gauge increase will have on the US industry, it would be a disgrace to allow the import of sublegal size lobsters into the US.

American Lobster Addendum XXX Public Hearing Attendance (Online)		
First Name	**Last Name**	**Email Address**
David	Borden	lizzy.2@charter.net
Toni	Kerns	tkerns@asmfc.org
Jennifer	Loome	jennifer.loome@dfo-mpo.gc.ca
Bobby	Nudd	lobstaman@myfairpoint.net
Cheri	Patterson	cheri.patterson@wildlife.nh.gov
Lauren	Staples	laurenstaples8@gmail.com
Renee	Zobel	Renee.Zobel@wildlife.nh.gov

Lobster Addendum XXX Hybrid Public Hearing Portsmouth NH May 6, 2024

Name	Affiliation
G. Ritchie White	ACMF
B. ANDERSON	NHCFA
P. Lahelan	NEFMC
Allison Murphy	NMFS
Hank Sale	AOLA
Joshua Reed	
Jim TITONE	YFC
A. Flanigan	Self
Ellen Goethel	

Government of Canada | Gouvernement du Canada

June 3, 2024

USA WTO TBT Enquiry Point

Standards Coordination Office (SCO),

National Institute of Standards and Technology (NIST)

100 Bureau Drive, 2100 Gaithersburg, MD 20899

Tel: +(1 301) 975 2918/Email: usatbtep@nist.gov

Subject: Lobster Draft Addendum XXX, World Trade Organization (WTO) G/TBT/N/USA/2109

To whom it may concern:

Canada appreciates the opportunity to provide comments to the public consultation process on the Atlantic States Marine Fisheries Commission (ASMFC) Draft Addendum XXX to Amendment 3 to the Interstate Fishery Management Plan for American Lobster, via G/TBT/N/USA/2109 on April 4, 2024. Canada's comments in this letter seek clarity from the United States (U.S.) on the potential trade impacts of the proposed measure.

In addition to the notified measure, Canada's comments are also based on the following additional reference documents:

i) Addendum XXVII to amendment 3 to the Interstate Fishery Management Plan for American Lobster (hereafter referred to as "**Addendum XXVII**").
ii) CUFTA, Panel Report - *Lobsters from Canada*, USA 89-1807-01, May 25, 1990.

Canada and the U.S both harvest American lobster (*Homarus Americanus*) within our respective jurisdictions. The same species is also traded extensively between our two countries. This has led to an integration of the Canada-U.S. lobster sectors. The U.S. International Trade Commission noted in its report "*Integrated through Free Trade: A Case Study of the U.S. and Canadian Lobster Industries*" (2022) that the extent of this integrated lobster sector has created "a distinctive environment that enables both countries to develop competitive advantages and use a North American platform to establish global competitiveness".

As close trading partners, Canada and the U.S share the objective of promoting the long-term conservation of fish stocks and the implementation of effective enforcement and management measures. We also recognize the importance of promoting and facilitating trade in sustainably and legally harvested fish and fish products. While measures may vary, our fishery management practices are adaptable and designed to support our shared objectives. Notably, American lobster stocks in Canadian fisheries waters are healthy and measures are in place to ensure their long-term sustainability. There continues to be regular dialogue between Canadian and U.S officials, and industry representatives on science and approaches to lobster management. Keeping our shared objectives in mind, Canada is seeking to clarify certain aspects of this proposed measure. We are also seeking the opportunity to work cooperatively with you to find less trade-restrictive approaches to achieve these common objectives while respecting different management approaches. In support of this, we note the following.

Firstly, **Addendum XXVII** notes that the lobster stock in the Gulf of Maine/Georges Bank (GOM/GBK) is neither depleted nor is it being overfished. In fact, **Addendum XXVII** notes that between 2018-2020

the lobster abundance was greater than the industry exploitation target. We note concern that there are some 'troubling indicators' regarding spawning stock biomass and fishery recruitment indicating a potential future decline in abundance. From this, while the rule under **Addendum XXVII** may be driven by certain conservation objectives, it also appears to be a proactive management measure with the aim to meet certain social and economic objectives when the stock is considered healthy, i.e., it aims to improve the economic sustainability of the fishery despite the stock not currently being at risk.

Secondly, to advance the conservation and socio-economic objectives outlined in **Addendum XXVII**, draft **Addendum XXX** proposes to apply the **Addendum XXVII** minimum size increase to the possession of American lobster (within the U.S.). Under the *Magnuson-Stevens Act,* Canada understands this to mean that the smallest minimum size for imports of foreign American lobster into the U.S. (i.e., including Canadian harvested American lobster) would need to match the smallest minimum size in effect for American lobster harvested in the U.S.

Thirdly, G/TBT/N/USA/2109 indicates that the objective of this measure is related to the protection of animal or plant life or health, and the protection of the environment. Canada understands that the measures in **Addendum XXVII** (i.e., increasing minimum carapace size) are related to domestic concerns. For example, draft **Addendum XXX** presents a concern noted by the ASMFC's Law Enforcement Committee (LEC) in that allowing the import of Canadian lobster smaller than the proposed gauge size changes would "create opportunities for the sale of U.S caught lobster that are below the legal minimum size in the U.S". The LEC has also noted that "enforcing the size difference when lobsters enter the United States from Canada at the border is not much of a challenge; however, once the lobster arrive to a dealer in the U.S, they are usually comingled for sale, and it would be difficult to maintain separation of U.S and non-U.S origin lobster". It is unclear whether the proposed import restriction is necessary to protect animal or plant life or health, the protection of the environment, or to address enforcement challenges within the U.S. It is also not clear how enforcing the measure at the border on foreign imported lobster will address such issues within the U.S. Accordingly, we are seeking clarity on the following:

1) How will enforcing the minimum lobster carapace size requirement at the United States' border on foreign *American lobster* contribute to addressing the U.S.' stated objectives?
2) Recognizing the LEC has noted that enforcing the size difference at the US border is not much of a challenge, could the US clarify why the proposed import restriction is required if it may lead to discrimination against foreign *American lobster* imports, especially those harvested in compliance with the management measures in said foreign jurisdictions (i.e., Canada)?
3) How and when will the ASMFC know whether the proposed import restriction is achieving its intended objective(s)? If domestic objectives have been met, would the gauge size limit and the proposed import restriction be lifted?
4) What alternatives has the U.S considered in the development of this proposal?

In terms of a separate, yet related issue, we also note the following. In 1990, during presentations to Canada-US Free Trade Agreement (CUFTA) Panel in response to panel questions, the United States indicated that the phrase "in interstate or foreign commerce" was inserted into Section 307(1)(J) of the *Magnuson-Stevens Fishery and Conservation Management Act,* due to US constitutional law reasons, as it signals the invocation of the regulatory authority conferred on Congress by the Commerce clause in the Constitution of the United States[1], and averred to the panel that it was not the federal government's

[1] CUFTA, Panel Report - *Lobsters from Canada*, USA 89-1807-01, May 25, 1990, para. 7.5.1

intention to enforce the minimum size requirement at the border[2]. We understand that this has been the practice since the NAFTA panel decision.

Accordingly, we are also seeking clarity from the U.S on the following:

5) Will the proposed measure apply to lobster travelling in-bond? If so, how?
6) Does the United States stand by this interpretation of the phrase "in interstate or foreign commerce," and the subsequent decision not to enforce the minimum size requirement at the border?

Thank you for the opportunity to share these preliminary views on the proposed measure and related documents. Considering the U.S.' and Canada's close trading relationship, our shared conservation objectives, and the significance of our bilateral American lobster trade, we encourage the U.S to reflect upon the questions and comments presented by Canada, especially when the potential impacts may not yet be fully understood within our integrated lobster sector. Furthermore, we encourage the U.S to consider such measures in line with our mutual obligations under the *Canada-United States-Mexico Agreement* (CUSMA) and the *Agreement on Technical Barriers to Trade.* Finally, we would also look to the U.S to consider less trade restrictive alternative measures that could make an equivalent contribution to the policy objective being pursued.

Regards,

Callie Stewart

Director, Technical Barriers and Regulations Division

Global Affairs Canada

[2] Ibid., para. 7.6.1.

ATLANTIC OFFSHORE LOBSTERMEN'S ASSOCIATION

158 Shattuck Way, Newington, NH 03801 | 603-781-9718 | www.offshorelobster.org

April 26, 2024

Atlantic States Marine Fisheries Commission
American Lobster Management Board
1050 N. Highland St.
Arlington, VA 22201

RE: Addenda XXVII and XXX to the Lobster FMP

Dear Lobster Management Board members,

The Atlantic Offshore Lobstermen's Association (AOLA) represents several dozen lobster vessels fishing throughout the range of LCMA 3. We write to support delaying implementation of Addendum XXVII pending analysis of its and related Addendum XXX's economic impacts on supply, ex-vessel prices, and United States lobster processors.

AOLA's concern is that the combination of a U.S. gauge increase coupled with a prohibition on Canadian imports below the new minimum size could have dramatic impacts on lobstermen and processors alike. There appears to be virtually no economic analysis of possible downstream effects of a ban on millions of pounds of lobster imports to the U.S. For example:

- If this subset of Canadian product could no longer be imported and processed, much could be routed to other international destinations in the live trade, thus competing with U.S. exports and likely depressing returns to U.S. fishermen.
- Canadian imports make up the bulk of raw material for U.S. lobster processors in the spring and early summer. If a substantial fraction of those imports are no longer available, our processors may simply close their doors for that period due to lack of supply, with concomitant impacts on jobs and economic activity.
- The price of lobster in the spring is largely determined by Nova Scotia landings and exports. Huge volumes of those exports are sent to the U.S. as 'crate run,' meaning ungraded lobster – including what would now be sublegal lobsters.

  There is simply not enough time for the Canadian shoreside industry to sort the crate run for sublegals. As a result, the Canadian domestic market could be backlogged with millions of pounds of lobster, depressing ex-vessel prices throughout the region.

Here AOLA does not object to Addenda XXVII and XXX *per se*, but rather because without analysis of their impacts in tandem, it is impossible to understand the potential repercussions. Therefore we request the ASMFC engage in that analysis, allowing the public to opine and the Board to vote in a reasonably informed manner.

We also request the Board consider delaying action on gauge size increases until its Lobster Technical Committee is able to report on the most current status of the indices used to trigger those increases, which could also help inform the Board's deliberations.

Sincerely,

Hank Soule, Deputy Director
Atlantic Offshore Lobstermen's Association

6/3/27

Caitlin Starks
Senior FMP Coordinator
1050 N. Highland Street
Suite 200 A-N
Arlington, Virginia 22201

Dear Ms. Starks,

This letter is to express Ready Seafood's opposition to Addendum XXX. Addendum XXX would have devastating negative consequences for Ready Seafood and other lobster processors and dealers in Maine. Additionally, it would pit harvesters and dealers against one another at a time when unity throughout our industry is so important.

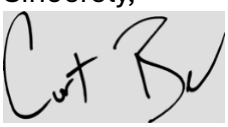
As our public comments at the April 30, 2024 ASMFC meeting expressed, our opposition to Addendum XXX stems mostly from our opposition to Addendum XXVII. We feel very strongly that given the proactive nature of Addendum XXVII, it would be in the best interest of all involved to pause implementation of Addendum XXVII.

A pause would allow necessary time for cross-border communication. Given the billions of dollars as well as the reliance both the US and Canada have on each other when it comes to lobster, it only stands to reason that serious time is dedicated to important conversations around management to stave off economic hardship.

Additionally, a pause would also provide time to collect another year of data from important monitoring programs. We have seen ups and downs at different life stages over the years. 2023 was an encouraging year from early life stage monitoring programs. Before we take the drastic and irreversible step of increasing the gauge in the US, we should do our best to learn if last year's uptick was an anomaly or the beginning of a positive trend.

We are grateful to ASMFC for taking the time to consider these important issues.

Sincerely,



Curt Brown
Marine Biologist, Ready Seafood

GREENHEAD
LOBSTER
STONINGTON, MAINE

June 1, 2024

ASFMC Lobster Board:
Susan Collins, US senator Maine
Jared Golden, US House Maine
Janet Mills, Governor Maine

To the entire Lobster board of ASMFC:

My name is Hugh Reynolds, and I am the owner of Greenhead Lobster, a full-service Lobster company with over 150 employees.
Thank you for taking the time to hear my concerns with addendum XXVII on April 30, 2024. Today I am asking for your time to read our Company's concerns with Addendum XXX. Anyone who is aware of the current North American lobster supply conditions on this first day of June 2024 would also understand how destructive the implementation of Addendum XXX would be.

Addendum XXX will reduce Canadian Imports by a number that is far greater than anyone realizes. The most important thing to realize about different measures is that there is not a feasible way to gauge every lobster before it comes to the U.S. We currently experience this obstacle when shipping Maine Lobsters to Connecticut and New York. Because measuring the carapace is too onerous and expensive, we grade them by weight instead. Grading by weight is not accurate. For us to be compliant with the laws in Southern States, we err on the side of caution in our size grading process. As a result of this process, 40% of our lobsters are ineligible for Southern New England rather than the actual estimated 20% by industry experts. The result will be similar if Canada must measure all its lobsters before shipping to the US. Consequently, Imports will drop by 30-40% immediately. That percentage will surge when many suppliers stop doing this process altogether. A Prime example of this is the Fishing Area

Greenhead Lobster LLC 38 Ocean Street P.O. Box 670 Stonington, Maine 04681
T 207-367-0950 F 207-367-0922 E greenhead@acadia.net www.greenheadlobster.com

around PEI that has a shorter gauge than the current US minimum. We have asked them to measure the lobsters and take the ones that are too small for the US out and export the remaining balance. We have been trying for over 25 years and yet to have any success. More simply put, measuring the carapace works on the harvester level but it does not work on the dealer and processor level. .

In 2012 our state government made an initiative to develop more instate processing due to a glut of lobsters that year. Our company followed the direction of our leaders and invested eight million dollars in a new facility. Unfortunately, we have very low landings here in the state during the months of May and June. During these months we use Canadian imports to run our factory before the Maine Season begins in July This Seasonal importing is essential to keep our workforce occupied and our company viable against our Canadian Counterparts. If we were to lose this, we would not survive and would have to move our processing to Canada

A massive reduction in Canadian Imports will not only result in adverse consequences to dealers and processor but to our independent harvesters here in New England as well. Currently this day June 1, 2024, Canada is experiencing strong landings that are overwhelming the existing processing capacity. The industry cannot afford to lose any more processing capacity. A loss in processing capacity will impact the harvester. Ostensibly, If the New England Dealer Network cannot participate in moving Canadian Supply during the spring, the supply will back up resulting in lower prices for New England harvesters.,

Thank you for reading our concerns with addendum XXX. In Summary it is impossible to comply with efficiently and any effort to comply would devastate the industry. . One should take note of the current situation where Alaska has lost processing capacity and fish prices have fallen to unworkable levels for the harvesters.

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I hold my prior opinion that the best way for ASMC ro manage this potential destruction of a very valuable North American Trade between Us and Canada is to put a pause on addendum XXVII and consider other ways for sustainable resiliency

Hugh Reynolds
Its President
Greenhead Lobster LLC

Greenhead Lobster LLC 38 Ocean Street P.O. Box 670 Stonington, Maine 04681
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Bob Beal
Executive Director
Atlantic States Marine Fisheries Commission
1050 N Highland St #200
Arlington, VA 22201

Via Email

Comments Regarding Addendums 27 & 30 to the Atlantic Lobster Management Plan

Dear Bob,

My name is John Norton. I am the President and Founder of Cozy Harbor Seafood (CHS), a primary seafood processor located in Portland, Maine. CHS was founded in 1980 and has been processing lobster since 1993. It is the most experienced lobster processor in the U.S.

I take this opportunity to comment on the devastating impact that the combination of Addendums 30 and 27 if implemented, would have on Cozy Harbor, on the U.S. lobster processing industry as a whole, and on the financial health and stability of the entire U.S. lobster industry. Cozy Harbor and the whole of the U.S. processing industry require Canadian lobsters in May and June for production. Similarly, we need robust May and June production to cover our substantial annual overhead expenses.

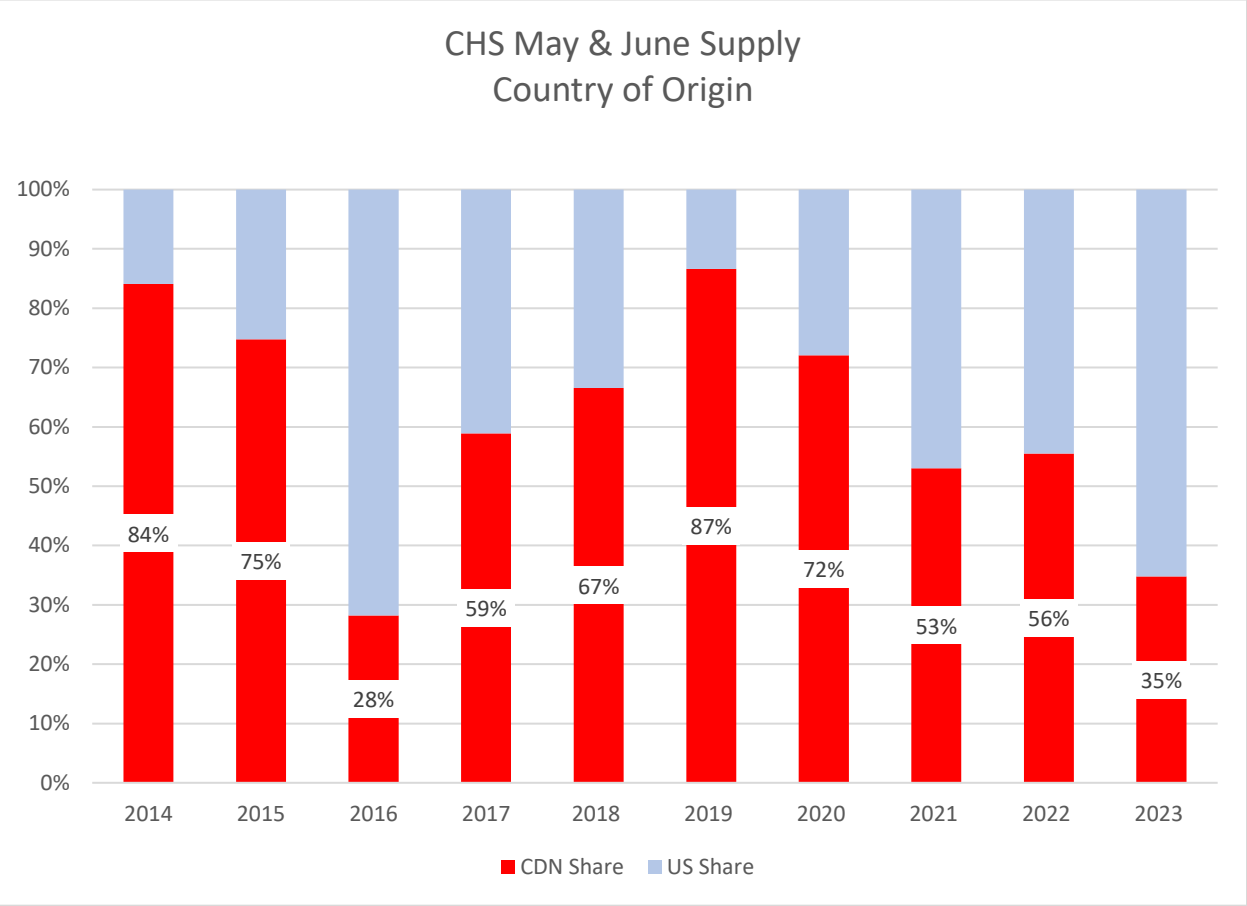
Implementation of Addendums 27 and 30 combined would cause a severe contraction in the supply of Canadian lobsters into Cozy Harbor and other U.S. processing plants during the months of May and June for the following reasons:

- Primary Canadian dealers (those purchasing directly from fishermen) lack the workforce and facilities to physically grade large volumes of lobsters for carapace length. They perform the Herculean task of supplying bait & supplies, unloading, and shipping 100,000,000 lbs of lobster in 8-10 weeks (it takes 52 weeks for Maine to produce that volume). That flood of lobster doesn't allow non-essential work at the primary dealer level.
- The capacity of secondary Canadian dealers possessing the facilities and staffing required to length-grade lobsters is inadequate to meet U.S. processing needs. That grading process adds so much cost ($.50 to $1.00 per lb) that U.S. processors would be uncompetitive against Canadian processors on both the supply and market sides.
- The best approximation of the impact A27/30 limits would have on total Canadian supply is the current situation in Prince Edward Island and New Brunswick which allow lobsters less than 3 1/4” carapace to be landed. U.S. processors are unable to reliably source PEI and N.B. lobsters in quantity because it is far easier and less costly for the Canadian primary dealers to sell all their lobsters to Canadian processors and shippers. We are shut out of the PEI / NB supply due to the difference in gauge size and will be similarly impacted in the other supply areas if A27 gauge increases are applied to all Canadian lobsters.
- U.S. plants now source lobsters directly from primary dealers in Newfoundland, Magdalene Islands, Quebec, Cape Breton, and Nova Scotia in May and June. They can thus operate their plants for 8-10 weeks before landings in the U.S. reach an economically feasible level. It’s estimated that U.S. plants utilize 11-12,000,000 lbs of Canadian lobsters in May and June to support their processing operations. In the event A27 & 30 gauge limits are implemented and enforced, U.S. plants would be at a severe

disadvantage to Canadian processors in sourcing from those provinces because of the extra work and cost required to sell to the U.S. Some lobsters would still be available but at such a high premium that U.S. processors would be uncompetitively priced for the frozen market.

Cozy Harbor is dependent on Canadian-origin lobsters for spring production. Over the last ten years (see chart below), Canadian-origin lobsters have constituted 65% of the total lobsters we processed in May and June. This share has ranged from 87% Canadian in 2019 on the high side to 28% in 2016 on the low side. The U.S. harvest and timing of the Maine lobster shed determine that share. The Canadian share is lower in early-shed years and higher in late-shed years. We don't prefer Canadian but the Canadian supply is critical to our production during May and June before U.S. landings are of sufficient volume to reliably support processing. A significant contraction of Canadian lobsters at that time would simply make processing unfeasible.

The processing of lobsters during these two crucial months contributes, on average, 22.5% of our total annual revenue. This period is not just financially significant but also critical in covering our operation's annual overhead. The potential loss of this revenue would not just devastate our lobster processing business, but also pose a significant threat to the entire industry. We are all dependent on Canadian lobsters to sustain our operations.



I believe the implementation of 27 & 30 would threaten not just Cozy Harbor but the entire industry. The U.S. lobster processing industry now comprises seven dedicated lobster plants capable of processing 3,300,000 lbs of lobsters per week at full capacity. In 2012, there were two plants in the U.S. with a combined weekly capacity of 600,000 lbs. This five-fold increase in U.S. capacity was driven by the 2012 U.S. lobster market collapse caused

by an unprecedented early shed and increase in supply. In 2012, the live market could not (and can't now) absorb the entire U.S. supply from July to December, and the Canadian processors had a near-monopoly on the frozen lobster market. Canadian plants chose to support their Canadian boats and suppliers at the expense of the U.S. supply. This combination resulted in a race to the bottom on lobster prices at a terrible cost to the U.S. industry. In response to that collapse, policymakers and stakeholders advocated the expansion of U.S. processing capacity to gain more local control of the fortunes of the U.S. lobster industry. Since 2013 nine U.S. companies (two have since closed) have invested in excess of $100,000,000 in processing plants, infrastructure, and equipment in Maine and Massachusetts.

U.S. capacity is now an effective counterweight to the subsidized Canadian monopoly and was a significant factor in the ability of the industry to thrive during the COVID-19 pandemic. In addition to providing worldwide market for the harvest of U.S. lobstermen, U.S. processors also support the live lobster shipping sector by providing a profitable outlet for lobsters that live shippers can't sell. The U.S. live business depends on the support of the processing sector to maintain quality and rotation of its inventory from July through December.

This kind of capability comes at a cost. Lobster processing is a capital-intensive, low-margin seasonal business that is highly regulated and very different from the live lobster business. Frozen lobster processing requires tens of millions of dollars to finance the necessary investment in plant, processing equipment, and inventory to satisfy food safety regulations and market demands. These required investments make lobster processing a very high overhead business. Plants need to spread those costs over large volumes of lobster to drive efficiency and cover the overhead necessary to compete in a market dominated by large subsidized Canadian lobster processors.

Processing frozen lobster is feasible only during the prime harvesting months of May to January. Processors have 185 days (minus weather days) over eight months to cover twelve months of overhead, mortgage, and equipment loans. Implementation of Addendums 27 & 30 directly threatens the survival of U.S. lobster processors by denying plants the volume and sizes necessary to be competitive against Canadian processors. A healthy U.S. processing industry is an essential component of a healthy U.S. lobster industry.

Sincerely,

John Norton
President
Cozy Harbor Seafood, Inc
75 St. John Street
Portland, ME 04102

COZY HARBOR OF MAINE

MAINE
Lobstermen's Association, Inc.
2 Storer St, Ste 203 * Kennebunk, ME 04043
207-967-4555 * 866-407-3770 * www.mainelobstermen.org

Atlantic States Marine Fisheries Commission
Caitlin Starks
1050 N Highland St, Suite 200 A-N
Arlington, VA 22201

Transmitted Via email

June 3, 2024

Dear Ms. Starks:

The Maine Lobstermen's Association (MLA) strongly supports the Atlantic States Marine Fisheries Commission's (ASMFC) recommendation to NOAA Fisheries proposed in Addendum XXX "that as changes to the minimum gauge size in LCMA 1 are required by Addendum XXVII, the smallest minimum size for foreign imports would match the smallest minimum size in effect for the US industry."

MLA has raised concern with ASMFC through previous comments and letters that the lack of clarity in Addendum XXVII regarding the the import of undersize lobster from Canada smaller than the minimum possession size has created significant confusion and angst amongst Maine lobstermen who worry that the import these lobsters would have a significant negative impact on the U.S. boat price.

Maine lobstermen remain very concerned that Downeast lobstermen will be forced to throw back lobsters that could then be caught and landed by Canadian lobstermen fishing in shared waters only to be sold back to the U.S.

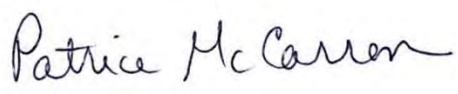
The MLA also reiterates its position that the need for Addendum XXX would be eliminated if ASMFC delayed the schedule of gauge increases for LMA 1. The MLA does not believe that a gauge increase is necessary at this time for several reasons which were described in detail in our April 2024 letter:

- The reference period of 2016-2018 and the percent trigger decline are overly precautionary.

- The three-year average for the trigger is too short to smooth out extremes coming off historic highs and unexpectedly triggered the schedule of gauge increases with the addition of only one year of data. The decline of 23% jumped to 39% decline compared to a 23% with the addition of 2022 data.
- Lobstermen continue to report observing high numbers of undersize lobster and eggers in their traps and survey data show the number of eggers and v-notch lobsters remain stable at historic highs.
- The ventless trap survey index has not exceeded the trigger index and the results of Maine's 2023 lobster surveys show improvement.
- Lobstermen remain concerned that lobster surveys may be underestimating settlement and juvenile lobsters due to a shift in lobster distribution.

The MLA continues to urge ASMFC to delay increasing the LMA 1 gauge to allow the time necessary to address the concerns raised by the MLA and for ASMFC to work with Canada to resolve trade impacts if the U.S. minimum gauge is increased. If and when the scheduled gauge increases are required, the MLA supports ASMFC's recommendation to NOAA described in Addendum XXX that lobster smaller than the minimum possession size in effect under the Commission's FMP for American lobster continue to be illegal for import to the U.S.

Thank you for your consideration.



Patrice McCarron
Acting Chief Operating Officer

Massachusetts Lobstermen's Association

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May 16, 2024

Caitlin Starks
Atlantic States Marine Fisheries Commission
Suite 200 A-N
Arlington, VA 22201

Email: comments@asmfc.org

RE: Lobster Draft Addendum XXX

Dear Ms. Starks,

The Massachusetts Lobstermen's Association (MLA) submits this letter of comment and great concern on behalf of its' 1800 members on the: Atlantic States Marine Fisheries Commission (ASMFC) Draft Addendum XXX (Add. XXX) and recommendations for the delay on the implementation on Addendum XXVII (Add. AAVII) to the Amendment 3 to the American Lobster Fishery Management Plan for Increasing Protection of the Gulf of Maine/Georges Bank Spawning Stock (GOM/GBNK SS). The MLA SUPPORTS Draft Addendum XXX should Addendum XXVII is implemented. The MLA ENCOURAGES the DELAY of implementing Add. XXVII.

While Draft Add. XXX is purely an administrative measure driven by the implementation of Add. XXVII would collectively have significant negative economic impacts on everyone in the lobster industry from the harvesters to the lobster dealers alike. Draft Add. XXX would not be needed if Add. XXVII did not take the overly precautious and worst-case scenario route to get to this point. This is the same route that the Atlantic Large Whale Take Reduction Team took when developing its' Biological Opinion. We have since learned, through the courts, that the overly precautious and worst case scenario route is unlawful and was over turned.

Regrettably, the ASMFC used the reference period of 2016-2018 to develop Add. XXVII which included extraordinarily high data as the lobster fishery in Maine was having abnormally high landings. The MLA strongly encourages the ASMFC to develop a current data set with a new reference period to compare it against the current reference period 2016-2018. We strongly believe that the newly developed data set will present a more current and realistic picture of the overall healthy GOM/GBNK SS.

Established in 1963, the MLA is a member-driven organization that accepts and supports the interdependence of species conservation and the members' collective economic interests. The membership is comprised of fishermen from Maryland to Canada and encompasses a wide variety of gear types from fixed gear and mobile gear alike. The MLA continues to work conscientiously through the management process with the Massachusetts Division of Marine Fisheries (MADMF), Atlantic States Marine Fisheries, Atlantic Large Whale Take Reduction Team, and the New England Fisheries Management Council to ensure the continued sustainability and profitability of the resources in which our commercial fishermen are engaged in.

During the Add. XXVII numerous commercial lobstermen commented on several critically important data sets that were missing from Add. XXVII from; the lack of data sets for Outer Cape Cod and Eastern Cape Cod Bay areas to the countless number of egg bearing females they are seeing in their traps. These areas are highly productive for lobster landings and these critically important data sets MUST be filled and included before Draft Add. XXX is approved and Add. XXVII is implemented.

Once again, Massachusetts has already gone through the public process of rulemaking to get Add. XXVII ready for implementation on January 1, 2025. This leaves Massachusetts commercial lobstermen riddled with apprehension as other states may get a delay or an outright pass due to the economic harm these Addendums will cause. The economic harm will be felt by everyone in the commercial lobster industry and any implementation of Add. XXVII or Add. XXX MUST be for every state.

In closing, the MLA strongly recommends putting Addendum XXVII and Draft Addendum XXX on hold until ALL the data is updated and data gaps are filled to give us a more current and realistic of the overall health of the GOM/GBNK SS.

The Massachusetts Lobstermen's Association strongly believes that the newly developed data set and review would ultimately negate the need for either, Addendum XXVII or Draft Addendum XXX to go any further. Thank you for your thoughtful deliberation and consideration of our comments.

Sincerely,

Beth Casoni

MLA, Executive Director

Drew Minkiewicz
Attorney at Law
Black Point Maritime
Law PLLC
202 870 4013

Bob Beal
Executive Director
Atlantic States Marine Fisheries Commission
1050 N Highland St #200
Arlington, VA 22201

Via Email

Comments Regarding Addendum XXX to the Atlantic Lobster Management Plan

Dear Bob:

I am writing on behalf of the North Atlantic Lobster Alliance (NALA) regarding Addendum XXX to the American Lobster Fishery Management Plan (the Plan). NALA is compromised of the majority of the lobster dealers and processors that operate within the New England states. As dealers and processors of lobster, NALA's membership relies on a consistent source of lobsters in order to operate profitably. Addendum XXX threatens to disrupt the current and necessary supply of Canadien lobsters and threatens the continued existence of several of NALA's members due to the significant adverse economic impacts it would have NALA member business. For the numerous reasons that NALA will outline below, NALA respectfully requests the Commission to take no action on Addendum XXX, as it is contrary to the law and not supported by a rational basis.

Addendum XXX is contrary to the Mitchell Provision

Addendum XXX purports to ask the NMFS to implement regulations that will comply with the so-called Mitchell provision in the Magnuson Stevens Act. Unfortunately, that is not the case, and the law clearly states that the current regulations on importation of lobsters from Canada shall remain in place.

The Mitchell provision reads as follows:

> Sec. 307 Prohibited Acts
>
> It is unlawful . . .
>
> (J) to ship, transport, offer for sale, sell, or purchase, in interstate or foreign commerce, any whole live lobster of the species Homarus americanus, that—
>
> (i) **is smaller than the minimum possession size in effect at the time under the American Lobster Fishery Management Plan**, as implemented by regulations published in part 649 of title 50, Code of Federal Regulations, or any successor to that plan implemented under this title, or in the absence of any such plan, is smaller than the minimum possession size in effect at the time under a coastal fishery management plan for American lobster adopted by the Atlantic States Marine Fisheries Commission under the Atlantic Coastal Fisheries Cooperative Management Act (16 U.S.C. 5101 et seq.);
> 16 U.S.C. 1857 (emphasis added)

Currently in the Plan as implemented under Amendment 3 to the Plan, there is a coastwide minimum size of 3 ¼" in effect. Addendum XXVII, the alleged reason for Addendum XXX, does not modify the coastwide minimum standard, it modifies the minimum standard for LCMA 1, among other provisions. While after the implementation of Addendum XXVII all the LCMAs may have a minimum size that is greater than the coastwide minimum, the coastwide minimum size limitation is still in effect in the Plan. Therefore, a plain reading of the provision dictates that the standard for what dealers and processors may or may not import from Canada is the 3 ¼" standard, and no new regulations are justified as there was no change to the minimum size in effect under the Plan.

No Rational Basis to Justify a Change in the Regulations

Looking beyond the plain language of the law, if the Commission were to pass Addendum XXX and the NMFS were to pursue a rulemaking to change the minimum size of lobsters that NALA members may import into the country, then the agency must have a rational basis to do so. With regards to Addendum XXX there is no rational basis to move forward. In the documentation supporting Addendum XXX the Commission puts forward no conservation rational for the necessity of the regulations. Nor can NALA members discern any possible conservation rational for the proposed regulations, as there is no conservation benefit to banning the trade of an animal that is already harvested legally and sustainably by fishermen in their home country and can easily enter international commerce from its country of origin. NALA notes that both national standard four and five of the Magnuson-Stevens Act require a conservation rationale for the implementation of regulations. 16 USC 1851 (a)(4-5).

The public hearing document puts forward an attempted rational basis for the regulations, citing enforcement concerns. Using enforcement concerns as justification for these new regulations is not plausible, because we sit here today with three different minimum sizes and three different maximum sizes in effect. It is not believable that a difference in size between Canadian lobsters and US lobsters is the straw that breaks the camel's back, when enforcement is currently operating under a system that allows the comingling of lobsters from different LCMAs with different size requirements. At the May 1st enforcement committee meeting, enforcement representatives gave numerous examples of the difficulty of enforcing the current regulations. And for the record, Addendum XXVII does not eliminate these difficulties as multiple minimum and maximum sizes will remain after its implementation. To cite the difference in Candain lobsters as the rational for a rule making, while ignoring the existing domestic differences is an arbitrary and capricious action that does not support a rational basis for rulemaking.

At the May 1st enforcement committee meeting another possible, but flawed rationale was put forward, the issue of supposed equity. The example given was that of fishermen in the Gray zone catching a 3 ¼" lobster, having to throw it back and then that same lobster is harvested legally by a Canadian vessel and then trucked past the lobstermen's home on its way to a processor in the United States. One, that same scenario exists today for oversize and v-notched lobsters, yet there is no addendum to ban the importation of those lobsters. Also, equity is a matter of the eye of the beholder. NALA would argue that is not equitable to disallow its members to purchase and then sell a lobster that is legally and sustainably harvested. Political expediency and the inability of the United States to resolve a long-standing border dispute is not a rational basis for rule making, especially when it is inconsistently applied. Once again, using equity concerns as a rationale would represent an arbitrary application of the law and is an unlawful approach to rulemaking.

Significant Economic Impacts

Updated import number for 2022 show that the United States imported over 50M lbs. of American Lobster (Homarus Americanus) from Canada. NALA estimates that US processors imported half of the imports for processing into various product forms and sale. The import value of live wholesale lobsters fluctuates from year to year due to market conditions, but NALA members expect to pay around $6.50 lb for live imports this year for processing. After the product is imported, then wholesalers will sell the product to distributors where it is then sold to retail and restaurants outlets. The economic value generated in these domestic supply chains after importation is represented by markups of these products from the time of import to the retail sale to the consumer. By establishing anticipated reductions in import volumes due do the proposed Addendum XXX NALA has estimated significant impacts on the domestic lobster industry.

Given the potential significant constraints in trade associated with the proposed Addendum, NALA estimates that the US lobster processors and dealers would experience a 20M lb. reduction in imports of Canadian lobster. These estimates are conservative considering the challenges Canadian producers will face trying to hand cull and ship these lobsters. Even if the Canadian companies adapt and use mechanical graders the overall cull loss due to poor accuracy with graders will be around 35%. Historically, the Canadian companies that ship lobsters from New Brunswick and PEI in the early season do not have the capacity to cull these lobsters and if they do decide to cull and ship them it is estimated they will need to charge over $1 a lb. in additional labor to ship to the US market. This increase in raw material cost alone on US processors will eliminate NALA's membership ability to compete in an already competitive market and potentially shut down the domestic processing industry.

Using the above assumptions and simple markups for each level in the domestic supply chain NALA can estimate the loss attributed to the domestic industry at $128M. If imports are reduced by 20M lbs. the effects of the loss can be calculated at each node of the supply chain. At the wholesale level this represents a loss of $26M, at the distributor level this represents a loss of $23.4M and at the retail level this represents a loss of $89 M. This is a basic representation of the impacts that NALA anticipates but it encourages the Commission and staff carry out a full economic impact analysis to ensure an adequate understanding of the potential impacts of Addendum XXX.

Alternative Conservation Measures

NALA recognizes that these are comments on Addendum XXX and that the commission has taken final action on Addendum XXVII but is considering an out of sequence meeting regarding possible changes to the required conservation measures in LCMA 1. NALA would like to take this opportunity to strongly support the Commission holding a meeting in June or July to consider new conservation measures. Adjusting the minimum size is but one of several options before the Commission for achieving conservation goals and increasing resiliency in the lobster fishery. However, increasing the minimum size of lobsters is the only conservation measure that has the potential to upend international trade and force a divide between lobster harvesters and lobster dealers. For instance, increasing the vent size on lobster traps will have a conservation benefit, but it will not raise the prospect of all the extensive collateral impacts that may occur with a minimum size increase.

Conclusion

NALA asks the Commission to not move forward on Addendum XXX, recognizing that it is neither in accordance with the law nor is there a rational basis to do so. Instead, NALA wants to work with the Commission to strengthen the resiliency in the lobster fishery in a manner that does not have the potential to upset the extensive and necessary trade patterns in the lobster fishery. Moving forward with Addendum XXX could lead to extensive economic harm to the entire lobster industry. NALA appreciates your consideration of its comments.

Sincerely,

Drew Minkiewcz
Attorney for NALA

Mortillaro Lobster Inc.
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mortillarolobster@gmail.com

Atlantic States Marine Fisheries Commission
Robert Beal, Executive Director
1050 N Highland St, Suite 200 A-N
Arlington, VA 22201

April 23, 2024

Dear Commissioner,

On behalf of Mortillaro Lobster Inc., I am writing to you to express the severe unease that is felt amongst the waterfront all throughout Massachusetts, New Hampshire and Maine from both fishermen and dealers over the implementation of Addendum 27. I have a unique understanding of the potential harmful effect that could be felt on all sides of the industry. I own and operate a wholesale lobster company in Gloucester, Ma. We source product from surrounding local areas as well as Canada and Maine. I talk to stakeholders from all parts of the industry and there is one overall concern that both dealers and fishermen will not survive the implementation of Addendum 27.

I understand Addendum 27 was developed and passed to preserve the lobster stock when and if the trigger was hit. It came as a shock to most people in the industry when this trigger was hit so quickly after Addendum 27 was passed. I feel as though the science being used is not reflective of what is truly going on in areas of the ocean where no proper research is being done. I hear from fishermen who fish inshore, offshore, on hard bottom, mud, gravel, and sand and who fish from 5 fathoms to 90 fathoms, and they all say the same things. Where there used to be lobsters there is no longer as many and the biomass has shifted. The juvenile lobsters are no longer in shoal water and are now out in 100 fathoms or more. Since draggers have stopped fishing in certain areas due to closures, the lobsters go to where the gear is in the smooth bottom, similar to a bird feeder. Fishermen have been seeing this year after year. There are less predators such as cod in these deeper waters and more predators such as seals and bass inshore, so they simply do not behave as they used to. The trawl surveys and ventless trap surveys being used to study settlements and juveniles in Massachusetts as well as Maine are not reflective of the behavior change in lobsters seen in the past 10 years. I have a degree in Biology and understand how these surveys work. It is imperative the lobster industry takes the

next 1-2 years to collect proper data on what is truly going on with the North Atlantic Lobster and learns where and when they are reproducing because as it currently stands, I feel as though we do not truthfully know.

Addendum 27 would hurt the shoreside dealers like myself in a catastrophic way. The "Chix" lobster accounts for 20%+ of our current business. We have gained wholesale customers because of this size lobster. Shoreside dealer operations operate at extremely high fixed costs year round in seasonal fishery that has been regulated more and more in the past few years. There is a point for all of us where this economically will not make sense. If you cut our supply both as live dealers and processers by 30% there is no way any of us will be able to survive during the long winter months. We will also lose all our live markets to Canada and processer outlets who we need to survive during the summer, and they need the product to operate. The effects on all sides of the market will make it hard for any of us to rebound especially with less than a year to make a strategic plan.

Addendum 27 would also be devastating to many of the state water fishermen who rely on a short season close to shore in small boats to make a living. These fishermen rely on being able to catch a Chix lobster. If you cut 10-20% of what they are catching they simply will no longer be able to pay for bait and fuel and will be out of business overnight.

As the owner of Mortillaro Lobster Inc. I simply ask that the Atlantic States Marine Fisheries Commission considers and passes a 1 year delay in the implementation date of the minimum gauge increase in LMA1. This will allow all stakeholders involved to come up with a plan both strategically and scientifically to allow the current North Atlantic Lobster population to continue to thrive as well as help support fishermen and dealers along the coast continue to operate in a profitable manner and support the thousands of families and communities this industry currently employees.

Thank you,

Vincent Mortillaro
Owner Mortillaro Lobster Inc.

New England Fishermen's Stewardship Association

500 Southborough Dr. Suite 204

South Portland, ME 04106

June 3, 2024

Atlantic States Marine Fisheries Commission
Robert Beal, Executive Director
1050 N Highland St, Suite 200 A-N
Arlington, VA 22201

Dear Commissioner,

On behalf of the New England Fishermen's Stewardship Association (NEFSA), I am writing in support of Addendum XXX to Amendment 3 to the American Lobster Fishery Management Plan. The NEFSA Board of Directors, composed strictly of fishermen from around New England, voted unanimously to support Addendum XXX which would restrict the import of live lobster from foreign countries that are smaller than the lowest established minimum gauge size in the United States.

With over 1,000 active members, the New England Fishermen's Stewardship Association is the fastest growing fishing advocacy platform in New England. Established in May 2023 and guided by fishermen at the helm, NEFSA is rooted in Maine and has a board of directors comprising of fishermen from all over New England. Our mission statement reads:

> "NEFSA is an alliance of the wild harvesters of the waters off of New England, dedicated to educating the public about how best to manage our seafood resources through sound science and best practices at conservation used by fishermen, with a view toward economic well-being, ecosystem sustainability and US food security."

Addendum XXX was created in response to one of many possible problems caused by Addendum XXVII. If lobstermen are forced to increase their minimum gauge size, it will be profoundly inequitable and nonsensical to allow neighboring Canadian vessels to catch the same lobster the United States lobstermen throw back into the ocean and then ship that lobster back into the United States. Addendum XXVII, as it currently stands, gives the upper hand to Canada and further punishes American Lobstermen who are providing sustainably caught seafood to consumers during a time of high food insecurity in the United States.

The New England Fishermen's Stewardship Association recognizes that American dealers and processing plants need access to Canadian product to operate during the slower landing periods in the United States, but we do not think this burden should fall directly on the backs of the harvesters. Dealers and harvesters rely heavily on one another to get wild caught lobster to consumers across the world. Because of problems stemming from Addendum XXVII, Addendum XXX was initiated—putting harvesters and dealers at odds with one another.

NEFSA believes there may not be a need for Addendum XXX if Addendum XXVII is re-examined and adjusted to alleviate the complexities created regarding trade between the United States and Canada. As we addressed in our previous comments from the April 30, 2024 meeting of the Lobster Board, changes regarding minimum size requirements for the North Atlantic Lobster MUST be made in lock step with our Canadian counterparts to avoid further problems and angst between fishermen, dealers, and regulators on both sides of the border.

There is little doubt that harvesters and dealers are at odds on Addendum XXX, but if we must take a position, NEFSA ultimately stands with the fishermen and opposes the import of Canadian product smaller than the lowest minimum gauge size. Our suggestion, however, is that the Lobster Board considers further modifications to Addendum XXVII, including a delay in implementation to allow for future conversations with Canada, to address scientific protocols, and to seek a better understanding of what fishermen are seeing day in and day out on the water.

Sincerely,

Dustin W. Delano
Chief Operating Officer
New England Fishermen's Stewardship Association

New England Fishermen's Stewardship Association

500 Southborough Dr. Suite 204

South Portland, ME 04106

April 23, 20024

Atlantic States Marine Fisheries Commission
Robert Beal, Executive Director
1050 N Highland St, Suite 200 A-N
Arlington, VA 22201

Dear Commissioner,

On behalf of the New England Fishermen's Stewardship Association (NEFSA), I am writing today to express great concern over Addendum 27 which passed ASMFC nearly one year ago. To the surprise of fishermen, dealers, and regulators—the trigger was reached shortly after the addendum passed. With this letter, NEFSA, along with several other New England fishing associations, harvesters, and dealers is asking for a one year delay in implementation to further study the serious market implications, the significant inequity and penalty placed on American lobstermen within the gray zone, and the scientific surveys used in the trigger index.

NEFSA was very grateful for the 7 month delay proposed by Commissioner Keliher last fall and understands the complexity surrounding another major request of the commission. However, we find it crucially important that the commission considers our ask in order to alleviate serious economic risks that will likely result in many harvesters, dealers, and processors going out of business. The American Lobster Fishery operates in lock step with its Canadian Counterparts and more time is needed to workout the changes as a result of an increase in the minimum gauge.

Unfortunately, NEFSA does not have comments on the record in opposition to Addendum 27. When the addendum passed ASMFC in May of 2023, NEFSA was just being formed. With over 900 active members, the New England Fishermen's Stewardship Association is the fastest growing fishing advocacy group in New England. Guided by fishermen at the helm, NEFSA is rooted in Maine and has a board of directors compiled of fishermen from all over New England. Our mission statement reads:

> "NEFSA is an alliance of the wild harvesters of the waters off of New England, dedicated to educating the public about how best to manage our seafood resources through sound science and best practices at conservation used by fishermen, with a view toward economic well-being, ecosystem sustainability and US food security."

Market Implications

According to many lobster dealers, the expected market implications as a result of the decrease in supply from a gauge increase will be catastrophic. Each and every dealer has a different focus and business model, however, all dealers rely on a steady supply. After the early shed and glut experienced in 2012,

expanding processing within the US became a priority and has increased on a large scale since then. Processors require a steady supply and high volume of lobsters to operate.

Beyond that, the “chick” lobster is of vital importance to many dealers and processors. Three to four ounce tails are one of the most sought after products from many processors which are distributed throughout the United States, to foreign countries, and heavily sought after by cruise lines. Within the live market, many consumers also prioritize a “chick” lobster when purchasing from seafood markets and restaurants in order to enjoy the sweet succulence of North Atlantic lobster at a reasonable price point. Addendum 27 has the real potential of removing many consumers from an already volatile market.

Gray Zone Inequity

One of the most unique fishing territories in all of New England is located off the Eastern Coast of Maine and is known as the *Gray zone*. It’s within those waters that American and Canadian fishermen mix together with already difficult hurdles and inequities. Biologists have suggested that with each increase in the minimum gauge, a reduction of about 10% in landings can be expected, but should be made up in the following year. While it doesn’t take an economist to realize that a 10% reduction in landings equates to a far greater reduction in the bottom line to harvesters who will still have the same amount of expenses, American lobstermen within the gray zone will suffer far more than lobstermen in other areas. American vessels will be required to throw back smaller lobsters and will not receive any benefit toward increased egg production because Canadian lobstermen will continue to catch and bring to market the smaller size lobster.

American Gray Zone lobstermen are expected to take two 10% hits to their landings as a result of the 1/8” gauge increase and they will not get that back as long as Canadian lobstermen continue to use a 3.25” gauge. Washington County in Eastern Maine is home to a majority of American gray zone lobstermen and overwhelmingly relies on the lobster fishery to be economically sustainable. Addendum 27 as written, will pose a serious threat that many Washington County residents may not be able to overcome.

Science

The New England Fishermen’s Stewardship Association would also like to express concern with only two indices being used within the trigger index of Addendum 27. First off, for the last decade or more, lobstermen have been able to fish year around in deeper waters further off the coast. As a result of changing environmental conditions, it would appear to fishermen that lobsters have expanded beyond their traditional habitat into deeper waters. The ventless trap survey is a very important study used to record the number of juveniles within the population, however, the maximum depth for the survey is only 32 fathoms. Deeper water ventless surveys need to be prioritized in the future to get a better grasp on lobster resiliency in expanded habitats in greater depths.

Secondly, (in Maine) the trawl survey is the only study to drop below the 35% trigger. Also in Maine, landings are still at astronomical levels which were never anticipated just over a decade ago with 2023 landings coming in at a whopping 94 million pounds of lobster landed. The record landings which exceeded 130 million pounds likely forced lobsters out of their preferred cobblestone and hard bottom habitat and onto mud bottom. As landings have moved to more sustainable levels, it’s likely that lobsters are less prevalent in non-preferred habitat which could have caused an overdramatized reduction in numbers from the trawl survey which is conducted on the soft bottom.

It’s also important to mention that peer-reviewed studies show egg production is currently at an all time high. Furthermore, 2023 lobster settlement surveys have shown record improvements and data from the

deepwater lobster settlement project off the coast of Maine with some of the largest settlement observed in the deepest depth strata. In 2023, many lobstermen expressed their observation of an increase in the amount of undersized lobsters in their traps, especially in deeper water.

The New England Fishermen's Stewardship Association would also like to urge the technical committee to present the 2023 survey data during the summer meeting. With the first minimum gauge change in LMA1 scheduled for January 1, 2025, it is imperative that commissioners are able to review the available survey data as soon as possible—especially if any major changes were observed.

Conclusion

The North Atlantic Lobster Fishery is one of the biggest fisheries in New England and has been articulately and successfully managed by fishermen, scientists, and regulators for decades. Addendum 27 was created to be a proactive approach at stabilizing the stock and continuing to enable the production of high landings for future years. While ASMFC is not required to consider economics within its management practices, in the case of a proactive rather than reactive approach, studying the economics is incredibly important and should be considered in situations of this magnitude. Michael Donihue, Ph.D. Professor of Economics and Director of the Laboratory for Economic Studies at Colby College conducted a very brief economic impact analysis of an increase in the minimum gauge on Maine's Economy. Donihue estimated that a ten percent decrease in the value of lobster landings in 2022 (for example) would have resulted in a loss of just over 680 jobs and nearly 60 million dollars to the economy in just Maine alone (see attached analysis). 2022 saw a drastic drop off in revenue from 2021 and applying the ten percent decrease to that particular year will show a very conservative number as a comparison.

Again, the New England Fishermen's Stewardship Association urges you to consider a one year pause on the implementation date for the minimum gauge increase in LMA1. Harvesters, dealers, and scientists need adequate time to iron out the complications that will arise from Addendum 27 and come up with a plan of how to address the serious and currently unknown market implications, the inequity to gray zone fishermen, and the data used in the scientific surveys.

Thank you,

Dustin W. Delano
Chief Operating Officer
New England Fishermen's Stewardship Association

Economic Impact Analysis of an
Increase in the Lobster Minimum Gauge Size on Maine's Economy

by
Michael Donihue, Ph.D.
Professor of Economics and Director of the
Laboratory for Economic Studies at Colby College

April 2024

In May 2023, the Atlantic States Marine Fisheries Commission (ASMFC) establishing a trigger protocol (Addendum XXVII) for the harvesting of lobsters in the Gulf of Maine and Georges Bank (GOM/GBK). The ASMFC regulation seeks to increase the harvestable lobster carapace gauge length and trap escape vent size with a goal of protecting the lobster spawning stock in these waters. The increased minimum gauge size was to go into effect on June 1, 2024. ASMFC's action was based on two key observations:[1]

- ✓ Since the early 2000s, lobster harvests from the GOM/GBK waters have increased.
- ✓ Since 2012, surveys of the juvenile lobster population in the GOM suggest that the spawning stock has decreased.

There is considerable debate among harvesters and policy makers, particularly in Maine, as to the impact of the trigger protocol on the industry and the accuracy of the survey data on which the ASMFC Board's regulatory action was made. In October 2023, ASMFC delayed implementation of the trigger protocol until January 1, 2025 in response to concerns of harvesters and a request from Maine's DMR Commissioner Patrick Keliher. Of particular concern to Maine's lobster harvesters is the fact that the ASMFC regulations would not apply to Canadian harvesters.

Earlier this month, representatives from the New England Fishermen's Stewardship Association (NEFSA) and several Maine lobster dealers approached me about the feasibility of providing an update to my previous economic impact study of Maine's wholesale distribution network and an estimate of the potential impact of the ASMFC trigger protocol on the entire industry. My Lobsters to Dollars study was based on interviews and data from 2016 provided by a representative sample of lobster dealers across the state. I found that, at that time, the economic impacts of the lobster dealer wholesale distribution network in Maine totaled just under $1 billion and supported approximately 5,600 jobs. My study was confined to just one segment of Maine's lobster industry supply chain and did not include the economic footprint of harvesters, nor the contributions attributable to 'downstream' enterprises in the value chain represented by processors, retailers, and restaurants.

A study of the State's entire commercial seafood industry prepared for the Seafood Economic Accelerator of Maine in January 2023[2] estimated the economic impact of Maine's lobster harvesters to be $852.5 million in total value added while supporting more than 6,500 jobs. That study did not estimate impacts attributable to Maine's wholesale distribution network.

A comprehensive economic impact study of the ASMFC trigger protocol would require a careful assessment of the ways in which harvesters would react in terms of their fishing intensity, capital investments in traps and equipment, and how much of their harvest would be impacted by an increase

[1] See: http://www.asmfc.org/species/american-lobster
[2] See: https://www.seamaine.org/wp-content/uploads/2023/03/FINAL-SEAMaine-Economic-Impact-Analysis-Report-2.pdf

in the legal carapace gauge length. Smaller lobsters may make up an important portion of total landings as one-pound "chicken lobsters" feature in the sales of many restaurants in Maine. Furthermore, there are more processors in the state than when I did my study and the impact of a significant reduction in this portion of the harvest is unknowable without conversations and field research that included these businesses.

Complicating the analysis, and presumably magnifying the negative externalities associated with the new regulation, is the fact that Canadian harvesters fish in the same waters as Maine lobstermen yet would not be subject to the ASMFC gauge length increase.

To get a sense for the multiplicative impact of a reduction in lobster landings that might result from ASMFC's new trigger protocol I focused on just the 'backward' or 'upstream' linkages for harvesters along Maine's lobster supply chain. I employed the same IMPLAN modeling environment that I used in my Lobsters to Dollars study and, coincidentally, also used for the January 2023 Maine commercial seafood industry impact report

The current minimum carapace gauge length for Maine lobsters is 83mm. Under the ASMFC trigger protocol, the minimum length would increase to 86mm (in two stages). Sampling data provided by Maine's Department of Marine Resources for 2016-2021 indicate that just over 10 percent of the harvest measured 83mm over this period and would therefore be illegal with the gauge increase. More than a third of the sampled landings during this period had a carapace length measuring between 83mm and 86mm.

I estimate that a ten percent decrease in the value of lobster landings in 2022 would have resulted in a loss of just over 680 jobs and $59.6 million to Maine's economy. Again, these impacts apply just to the economic activity attributable to the harvesters and those upstream enterprises in the value chain. All of the negative impacts on the downstream portion of the supply chain – the wholesale distribution network, processors, retailers, and restaurants – would be *in addition* to my estimates.

The table below disaggregates the total impact of a 10 percent reduction in the value of landings in 2022 into the direct effect (10% of landings in 2022 equals $39.2 million), indirect effects representing economic losses to upstream businesses from whom harvesters purchase equipment and services, and the induced effects of lost labor income on Maine's economy.

State-wide Economic Impacts of a
10% Reduction in the Value of Lobster Landings on Maine's Economy
(Millions of 2024 dollars)

Impact	Employment	Labor Income	Value Added	Output
Direct	-574	-$22.7	-$39.0	-$39.2
Indirect	-1	-$0.045	-$0.085	-$0.168
Induced	-112	-$6.3	-$12.1	-$20.2
TOTAL	**-686**	-$29.0	-$51.2	**-$59.6**

MAINE LOBSTERING UNION LOCAL 207

Atlantic States Marine Fisheries Commission Robert
Beal, Executive Director
1050 N Highland St, Suite 200 A-N Arlington,
VA 22201

Dear Commissioner,

The Maine Lobstering Union is writing today to again voice our concerns about the upcoming gauge increase for lobsters in the state of Maine.

Last year, The Atlantic States Marine Fisheries Commission (ASMFC) Lobster Board passed Addendum 27, implementing a gauge increase in the minimum measure of lobster in the state of Maine. Largely due to a reported 35% decrease in juvenile lobsters. It was intended to be a proactive measure to improve lobster stock in the Gulf of Maine.

The Lobster Industry in Maine supports an average of 18,000 jobs and produces on average $464 million of revenue each year. It supplies 90% of the country's lobster, and 80% of these lobsters come from Knox, Washington, and Hancock counties. In some of Maine's coastal communities 85% of the household income comes directly from the lobstering industry. Yet, the fishermen that support the state and its economy have little to no representation on the commissions that regulate our industry.

The Lobstermen of Maine consider themselves to be stewards of the sea, they pride themselves in protecting the sustainability of the waters that they fish. The Maine lobstermen have been v-notching the egg-bearing females for years, along with past measure increases when warranted, long before any others.

It is our belief that the groups that are charged with overseeing and regulating this industry are doing so while overlooking both the men/women who work in this industry as well as the communities that it serves.

When this gauge increase was proposed in 2017, it was halted due to the issues around the North Atlantic Right Whale. Restrictions were placed on lobstermen at that time, even though there was no scientific evidence to support that any NARW had been killed by Maine lobster gear at that time.

In 2021, the addendum was revised to add a trigger mechanism that would measure gauge and vent size. This was based on the increase of lobsters measuring 71-80mm. This information was obtained by using a trawl survey that stated the stock levels dropped below the 2014-2018 average.

We would like to state on record that we disagree with the findings of the stock assessments that were done by DMR. These trawl surveys were conducted in an area determined by computers, in areas that were productive 15 years ago. No current data is being used to determine the stock assessments. Furthermore, some studies were completely excluded and their findings were not considered.

In 2020, Wood Hole scientists conducted a study on the effects that sonar used in offshore wind had on the lobster population. This study's findings were published in 2021 showing that the noise produced by the windmills is the same frequency (hertz) 100-200 that lobsters use to mate, move and interact with other male lobsters. This was detrimental to the lobster larvae study points off of Boothbay and would have had an effect on the low lobster population reported in 2021 and 2022.

This gauge increase is being brought on without all available science being considered. For the past few years we have observed lobsters spawning in deeper waters, not where they are trawling and setting ventless traps.

We have been working the bottom and observing the movement of lobsters for our entire lives. We know our industry, yet our knowledge and input is not considered and disregarded.
Over the past ten years the cost of lobstering has increased greatly. Prices on boats, boat repairs, bait, and fuel have all gone through the roof. Recent years have brought storms with ocean surges unlike any ever recorded in the state. The most recent, which the President declared the state a disaster area, many communities have yet to rebuild from.

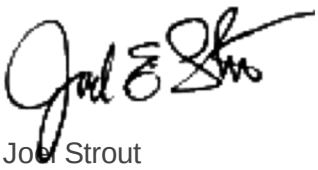
Maine lobstermen are being forced to abide by this new measure while Canadian lobstermen will have no changes to face. This will, without a doubt, have catastrophic consequences for the lobstermen, the communities they serve, and the State of Maine.

The Maine lobstermen will have no way to address the inequity of this measure and face at least a 10% reduction in their catch. They would no longer have the ability to service the lobster processors, as they would not only not have the quantity of lobsters, they also would no longer have the desired sized lobster (the Chick).

Canada will be in a position to service these processors and sell lobsters back to the US. They will have both the desired size, and the quantities, and in doing so keep the Maine lobster prices lower.

Again, we are asking that the commission only use current data when designing these restrictions. You must consider the consequences that these restrictions/regulations will have on the men/women who are up at dawn, actually working in the waters you are restricting. They will be devastating to the entire industry and the entire state of Maine.

Thank you,



Joel Strout
President, Maine Lobstering Union, Local 207

150 Bar Harbor Rd

Trenton, ME 04605

MAINE LOBSTERING UNION
LOCAL 207

Atlantic States Marine Fisheries Commission
Robert Beal, Executive Director
1050 N Highland St, Suite 200 A-N
Arlington, VA 22201

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The Lobstermen of Maine consider themselves to be stewards of the sea, they pride themselves in protecting the sustainability of the waters that they fish. It is our belief that the groups that are charged with overseeing and regulating this industry are doing so while overlooking both the men/women who work in this industry as well as the communities that it serves.

When this gauge increase was proposed in 2017, it was halted due to the issues around the North Atlantic Right Whale. Restrictions were placed on lobstermen at that time, even though there was no scientific evidence to support that any NARW had been killed by Maine lobster gear at that time.

In 2021, the addendum was revised to add a trigger mechanism that would measure gauge and vent size. This was based on the increase of lobsters measuring 71-80mm. This information was obtained by using a trawl survey that stated the stock levels dropped below the 2014-2018 average.

Did this survey factor into the equation changes in climate over the last years? Recent years have brought storms with ocean surges unlike any ever recorded in the state. The most recent, which the President declared the state a disaster area, many communities have yet to rebuild from. Have these surveys considered that these changes and storms force the lobsters to settle in deeper waters?

Maine lobstermen are being forced to abide by this new measure while Canadian lobstermen will have no changes to face. This will, without a doubt, have catastrophic consequences for the lobstermen, the communities they serve, and the State of Maine.

The lobstermen will have no way to address the inequity of this measure. Maine lobstermen would face at least a 10% reduction in their catch. They would no longer have the ability service the lobster processors, as they would not only not have the quantity of lobsters, they also would no longer have the desired sized lobster (the Chick).

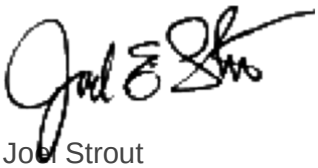
Canada will be in a position to service these processors and sell lobsters back to the US. They will have both the desired size, and the quantities, and in doing so keep the Maine lobster prices lower.

The Lobster Industry in Maine supports an average of 18,000 jobs and produces on average $464 million of revenue each year. It supplies 90% of the country's lobster, and 80% of these lobsters comes from Knox, Washington, and Hancock counties. In some of Maine's coastal communities 85% of the household income comes directly from the lobstering industry. Was there a study that took this into consideration? Has it been considered how many people would become unemployed, with very little hope of finding a new job an industry that is all they have ever known?

In recent years the Lobster Industry has faced many challenges, many restrictions, and regulation changes. What has not been considered is the human element, and the consequences that these restrictions/regulations have on the men/women who are up at dawn, actually working in the waters you are restricting.

People all over the country are dealing with high fuels costs and inflated living costs. Lobstermen of Maine will have to navigate all of these now with (a minimum of) 10% reduction in their incomes. We ask that **all** of the factors are considered prior to imposing restrictions, and that **all** science is used to do so, not just the science that supports one part of the equation. We ask that the gauge increase please be paused until further studies or assessments are able to be conducted.

Thank you,



Joel Strout
President, Maine Lobstering Union, Local 207

150 Bar Harbor Rd

Trenton, ME 04605

Rocky Neck Lobster Co II Inc. dba Cape Ann Lobstermen
111 E. Main St
Gloucester, Ma 01930

Atlantic States Marine Fisheries Commission
Robert Beal, Executive Director
1050 N Highland St, Suite 200 A-N
Arlington, VA 22201

April 23, 2024

Dear Commissioner,

On behalf of Rocky Neck Lobster CO II Inc dba Cape Ann Lobstermen, I am writing to you to express the severe unease that is felt amongst the waterfront all throughout Massachusetts, New Hampshire and Maine from both fishermen and dealers over the implementation of Addendum 27. I have a unique understanding of the potential harmful effect that could be felt on all sides of the industry. I own and operate a wholesale lobster, bait, and seafood operation as well as a seafood restaurant and retail market in Gloucester, Ma. We source product from surrounding local areas as well as New Hampshire, Maine, and Rhode Island. I am also married to a full time commercial lobstermen who fishes both offshore and inshore year round. I talk to stakeholders from all parts of the industry and there is one overall concern that both dealers and fishermen will not survive the implementation of Addendum 27.

I understand Addendum 27 was developed and passed to preserve the lobster stock, when and if the trigger was hit. It came as a shock to most people in the industry when this trigger was hit so quickly after Addendum 27 was passed. I feel as though the science being used is not reflective of what is truly going on in areas of the ocean where no proper research is being done. I hear from fishermen who fish inshore, offshore, on hard bottom, mud, gravel, and sand and who fish from 5 fathoms to 90 fathoms, and they all say the same things. Where there used to be lobsters there is no longer as many and the biomass has shifted. The juvenile lobsters are no longer in shoal water and are now out in 100 fathoms or more. Since draggers have stopped fishing in certain areas due to closures, the lobsters go to where the gear is in the smooth bottom, like a bird feeder. Fishermen have been seeing this year after year. There are

less predators such as cod in these deeper waters and more predators such as seals and bass inshore, so they simply do not behave as they used to. Lobster have been adapting for over 100 million years according to some records and will continue too in order to survive. The trawl surveys and ventless trap surveys being used to study settlements and juveniles in Massachusetts as well as Maine are not reflective of the behavior changes in lobsters observed in the past 10 years. I have a degree in Biology and understand how these surveys work. It is imperative the lobster industry takes the next 1-2 years to collect proper data on what is truly going on with the North Atlantic Lobster and learns where and when they are reproducing because as it currently stands, I feel as though we do not truthfully know.

Addendum 27 would hurt the shoreside dealers like myself in a catastrophic way. The "Chix" lobster accounts for 30%+ of our current business. We have gained wholesale customers because of this size lobster. My restaurant serves twin Chix at an affordable price during summer months to allow consumers to experience what a real New England lobster tastes like, and my retail operation serves bundles of 10 Chix at an affordable price that people drive hours to pick up and enjoy with their families. Shoreside dealer operations operate at extremely high fixed costs year round in seasonal fishery that has been regulated more and more in the past few years. There is a point for all of us where this economically will not make sense. If you cut our supply both as live dealers and processers by 30% there is no way any of us will be able to survive during the long winter months. We will also lose all our live markets to Canada and our processer outlets who we need to survive during the summer. These processors in turn need our product to operate. The effects on all sides of the market will make it hard for any of us to rebound especially with less than a year to make a strategic plan.

Addendum 27 would also be devastating to many of the state water fishermen who rely on a short season close to shore, who fish on small boats to make a living. These fishermen rely on being able to catch a Chix lobster. If you cut 10-20% of what they are catching they simply will no longer be able to pay for bait and fuel and will be out of business overnight.

As the owner of Rocky Neck Lobster Co II who currently employs over 100+ people, and who does business with over 150+ boat owners and interacts with and talks to over 250 fishermen between crew and owners simply asks that the Atlantic States Marine Fisheries Commission considers and passes a 1 year delay in the implementation date of the minimum gauge increase in LMA1. This will allow all stakeholders involved to come up with a plan both strategically and scientifically to allow the current North Atlantic Lobster population to continue to thrive as well as help support fishermen and dealers along the coast continue to operate in a profitable manner and support the thousands of families and communities this industry currently employees.

Thank you,

Tessa Browne
Owner
Rocky Neck Lobster CO II Inc dba Cape Ann Lobstermen

Caitlin Starks

From: Caitlin Starks
Sent: Friday, April 26, 2024 9:41 AM
To: Comments
Subject: Fwd: [External] Two Great Concerns from DELA

-------- Original Message --------
Subject: [External] Two Great Concerns from DELA
Date: 2024-04-26 09:39
From: Sheila Dassatt <dassatt711@yahoo.com>
To: "rbeal@asmfc.org" <rbeal@asmfc.org>, "cstarks@asmfc.org" <cstarks@asmfc.org>

Dear Robert and Caitlin,

We are the Downeast Lobstermen's Association, established in Jonesport, Maine in 1991. This letter is in support of the two letters that MLA has sent to you concerning the trackers and asking if ASMFC will remove the provision.
We are also asking for you to initiate a new addendum to make that change.
We are all representing our lobster industry and are supporting one another in this endeavor.

We are also asking for ASMFC to delay the implementation of the schedule of the gauge increases, and to run the updated trigger index for the summer meeting. This was scheduled to happen at the October meeting.

These are all very important to our lobster industry and we stand in support of one another with these issues. Please take these requests into your consideration. We stand together with MLA, NEFSA, MLU, MCFA, and our lobster dealers.

Thank you,
Sheila H. Dassatt
Executive Director
Downeast Lobstermen's Association
Stonington, ME 04681

dassatt711@yahoo.com
207 322-1924

Caitlin Starks

From: Wayne Delano <fvwishfulthinkin@gmail.com>
Sent: Monday, June 3, 2024 5:44 PM
To: Comments
Subject: [External]

Dear Commissioner.
I would like to speak in favor of addendum xxx amendment 3. Because of addendum xxvll we are looking at a huge disadvantage with possibly Canadian small lobsters being shipped to Maine. If we could revist #xxv11 there wouldnt be a need for addendum xxx. With xxxv11 our Guage will increase and Canadians will be allowed to keep what we can not. Please consider approval of addendum xxx without this we will be at an extreme disadvantage in the industry. My personal opinion is the state of Maine did not think this guage change through. We need addendum xxx to be approved, unless we do not have the Guage increase. I've been Lobster fishing for nearly 40 years please help us out.
Thank you
Wayne Delano
Friendship me. Lobster fishermen.

Caitlin Starks

From: John Drouin <jpdjmd@gmail.com>
Sent: Monday, June 3, 2024 5:53 PM
To: Comments
Subject: [External] Lobster Draft Addendum XXX

To the Lobster Board:

Addendum XXX absolutely needs to be passed on the heals of Addendum XXVII.
There are countless laws that are there to protect an American citizen.
For ASMFC to pass Addendum XXVII, which will limit American fishermen, and then not give the protection of Addendum XXX would be atrocious to the fishermen.
It would be hypocritical of ASMFC to allow other American Citizens to go purchase a product that no one in the United States can go get on their own. If one citizen is prohibited, then all should be!
To allow "dealers" to purchase product that you yourselves, ASMFC, say are needed to help keep the lobster stocks healthy and stable, is ludicrous to say the least. You should be pushing for Canada to protect these same very lobsters...and I do mean same, as we have American and Canadian fishermen fishing side by side in the "gray zone" in the downeast waters of Maine. What good is it doing to have the Americans that fish that area throw lobsters back to then have Canadian fishermen catch same said lobster and to add insult to injury, have an American dealer purchase that lobster that you, ASMFC, told the American they can not catch!
Think when you pass these rules and regulations as to what the consequences are!
I urge you to pass Addendum XXX...if not, go back to the drawing board and erase Addendum XXVII, because both of these addendums go hand in hand.

Thank you,
John Drouin
Cutler, Maine fisherman

Caitlin Starks

From: Travis Fifield <travis@fifieldfisheries.com>
Sent: Thursday, March 28, 2024 12:09 PM
To: Comments
Subject: [External] Lobster Draft Addendum XXX

To whom it may concern,

Maine already has very few lobster processors compared to the Canadian Maritime provinces— a problem we know leads to lower prices for Maine wharves and fishermen. Addendum XXX would further disincentivize processors from opening and operating on this side of the border because of the increased difficulty in importing suffucient live product in the off-season to keep their processing lines going. Making our Maine-based processors less competitive is not the direction the industry needs to move in. Unless Maine and The Maritimes intend to harmonize their legal lobster sizes, this import restriction will only put our Maine processors at a significant disadvantage, or even worse, incentivize them to move across the border, while doing nothing to protect the lobster stock in the Gulf.

Travis Fifield
Fifield Lobster Co.
Stonington, Maine

Caitlin Starks

From: Bill Keefer <billkeefer8@gmail.com>
Sent: Tuesday, March 26, 2024 3:22 PM
To: Comments
Subject: [External] Draft Addendum XXX

From the conservation view it is a great idea and I didn't know different regions had different requirements.

Of course having this apply to imported lobsters creates a level playing field. The biggest issue is enforcement. Why don't you consider hiring retired folks who could be flexible and provide you with experienced workers. It would have to be random visits to dealers.

Thank you

Bill Keefer
Portland, Maine

Caitlin Starks

From: Thomas Bell <thomas.bell1280@gmail.com>
Sent: Thursday, May 30, 2024 5:20 PM
To: Comments
Subject: [External] Lobster Draft Addendum XXX

Hello,

The lobster gauge and trap vent size changes should not take place. There has been nowhere near enough research on the real cause of juvenile lobster decline in the GOM and taking broad actions that will greatly impact the lobster harvest are not in the best interest of anyone. There could be any number of causes that have nothing to do with harvest (predation changes, biomass migration that affects survey data, etc.)

With that being said, if such changes do occur then minimum sizes on foreign imports should match US regulations.

Thank you.

Caitlin Starks

From: Matthew Huntley <lobster211@hotmail.com>
Sent: Friday, April 26, 2024 8:13 AM
To: Comments
Subject: [External] Lobster gauge increase

I've made my living the greyzone in zone A since 2003. I have seen many changes since then. The amount of shorts was on the rise for years along with personal landings. Now it's back on its cycle back the other way. And if you based your assessment on any of last years data, I found that lobsters were congregated abnormally in certain areas and stayed that way for months and months. While other areas usually plentiful eventually were barren most of the year. So I can see how if dmrs ventless traps weren't in the specific areas then the data would not show good numbers. Whereas if they were in these certain areas then the numbers would have been off the charts. Your data does not cover enough time nor does it cover enough area. I am also very worried that if you increase our measure and Canada does not do the same, both in the greyzone and any zones along the US line, it is likely to start a very expensive trap war between the US and Canada. We CANNOT throw back lobsters and have Canada taking those same lobster to market. That is not conservation. It will completely devastate ZONE A fishermen. Ive lived in machiasport for 40 years. I have 6 children to support ages 3 to 16. I will have to leave here to another zone if this happens or give up fishing all together. It WILL NOT be profitable at all to fish here anymore.
Sent from my iPhone

Caitlin Starks

From: Chip Johnson <chipneta@comcast.net>
Sent: Saturday, April 27, 2024 7:50 AM
To: Comments
Subject: [External] Maine lobster measure increase.

Hello.

I am not involved in politics but I know something of how this country was intended to be run. There is laws in place to curb actions just as this attempted action. A non-elected out of state non profit group dictating regulations based on manipulable data? Things are changing for sure, and yes temps are rising somewhat depending on where you look. But the changes lobster migration, we will eventually find in the end of all this, is more due to chemical runoff than anything else. I do not support the meddling of non-profit organizations with back-door agendas in our centuries old business.

--
Chip Johnson
C W Johnson Inc
www.cwjohnsoninc.com
207-833-6443

Caitlin Starks

From: Dicky Wallace <wallacedicky@gmail.com>
Sent: Thursday, April 25, 2024 5:27 PM
To: Comments
Subject: [External]

This measurement increase is not going to work because we don't catch many big lobsters that being said it wouldn't be worth me fishing anymore

Caitlin Starks

From: charlie look <cbl124@hotmail.com>
Sent: Sunday, March 31, 2024 2:18 PM
To: Comments
Subject: [External] lobster draft addendum xxx

As a lobster fisherman who catches lobster in fall of the year then pounds (held in storage)lobster, for sale until late winter early spring of following year, be allow a wavier for first year 2025. (until april 15 2025)

Restated:
If lobsters are caught in fall of 2024 (using the 3 ¼ mearsure) and held in storage (lobster catch will be reported on vesl app as carried) be allowed to be sold by april15 2025 (requesting 3.5 month wavier for first year)

Thanks
Charlie Look
85 snare creek ln
Jonesport,Me 04649

ph 207 598 5621

Caitlin Starks

From: Alex Benner <rocknroll3986@yahoo.com>
Sent: Friday, April 26, 2024 9:54 AM
To: Comments
Subject: [External] Lobster measure gauge increase Maine

I'm from Maine and I have seen an excess of small lobsters the trap surveys are wrong, they were not placed in good spots where small lobsters would be. The measure increase would be detrimental to the Maine fishery and is completely uncalled for and would be detrimental to the fishery.

Alex benner Maine lobster fisherman

Caitlin Starks

From: alex hutchins <fvsonnyboy@yahoo.com>
Sent: Thursday, April 25, 2024 7:59 PM
To: Comments
Subject: [External] Lobster gauge

The gauge increases need's to be stopped ! We have more shorts and v tail lobsters than ever before! Baby lobsters are up and have been for several years we had one bad year that could have been a combination of many things such as high bait prices so guys fished fewer days or more guys getting out of the business or all the rain and storm water run off full of chemicals but non of it is from lack of lobsters of any size

Alex hutchins

Sent from Yahoo Mail for iPhone

Caitlin Starks

From: Maine Reset <mainereset@gmail.com>
Sent: Friday, April 26, 2024 8:31 AM
To: Comments
Subject: [External] Comment on Addendum 27

To the Atlantic States Marine Fisheries Commission,

My name is Andrew Joyce. As the son of an eighth-generation Maine lobsterman and a former lobster license holder in Maine, I have many ties to the lobster fishery whose proper management has been a credit to the Commission. It is with this legacy of management excellence in view that I would like the record to show that I have enormous reservations about the minimum gauge increase forthcoming from Addendum 27.

The available scientific evidence for categorizing the lobster stock in the affected area as being in a state of decline is, at best, inconclusive. I have no doubt that others will point this out in greater detail. But I would implore you to consider delaying the implementation of this gauge increase until expanded research efforts can shed more light on this issue. I would also ask that the Commission consider the importance of allowing time for an economic impact study to be conducted, as the gauge increase would distribute enough financial setbacks throughout the lobster industry to further destabilize an industry that is already saddled with a variety of challenges.

I hope the Commission will be able to consider these factors when fine-tuning the management of the American Lobster Fishery to ensure that the thousands of businesses dependent upon it can continue to subsist off of this iconic and sustainable product.

With best regards,
Andrew Joyce
Palmer, Massachusetts

Caitlin Starks

From: KIM KMS <sasi6552002@yahoo.com>
Sent: Friday, April 26, 2024 7:51 AM
To: Comments
Subject: [External] Lobster gauge increase

We strongly oppose the flawed assessment. We have never seen so many juvenile lobsters in the water and there is absolutely no reason for the gauge increases.

This will be detrimental to our business. and all based on more flawed assumptions.

Andrew & Kimberly Smith
Frenchboro ME

Sent from Yahoo Mail for iPhone

Caitlin Starks

From: Arnold Francis <arnoldfrancis2@gmail.com>
Sent: Friday, April 26, 2024 7:58 AM
To: Comments
Subject: [External] I oppose the gauge increase

I am a commercial lobsterman in Maine, and this gauge increase is going to hurt my business tremendously and it's gonna hurt a lot of dealers as well. If we can't sell the smaller lobsters they will just get them out of Canada. I hope we can delay the gauge increase until we all do a lot more research and can all get on the same page so Canada, Maine, Massachusetts and New Hampshire are all on the same size gauge.

Thanks,
Arnold Francis

Sent from my iPhone

Caitlin Starks

From: Ben Oakes Boynton <spacer236@hotmail.com>
Sent: Friday, April 26, 2024 6:45 AM
To: Comments
Subject: [External] NO NEED FOR LOBSTER MEASURE INCREASE

Hello my name is Ben Oakes and I'm a lobster fisherman from owls head, Maine. As your aware there is a planned lobster measure increase that is going to affect a lot of different things. First and most important is the fact that the lobster population is thriving and I have never seen more small and female lobsters. We get multiple runs a year where there are 10 females in every trap we own. One thing super bothersome is a lot of this info is collected from land? Go out there and look with your own eyes! Second thing is people don't even want to eat large lobsters! The size they are is perfect for the meat consistency! No one wants chewy big lobsters. Please let the fisherman just fish. This is out of hand at this point! I'm not trying to be mean or sound aggressive! I just love lobstering and am very aware this will only end up hurting lobster fishing as a whole. Thank you if you've got this far I appreciate it a lot! Have a great day - Ben

Caitlin Starks

From: Brandon Wyman <brandon.wyman@gmail.com>
Sent: Friday, April 26, 2024 12:04 AM
To: Comments
Subject: [External] any comment to you is a waste

All of you should be ashamed of yourself. People died for this country and some of your relatives they are rolling over. None of any of you that sit on asmfc have ever been commercial fishing for a living. How would you like to be stalked everyday? You all need a reality check, you litetally know nothing about any fishery. You are paid off, money is everything to you people, money will not buy you life. My greats, and my grandfathers and uncles faught for this so called free country, im a 6th generation fishermen. Not only lobster, shrimp, herring, pogies, groundfish you name it. Your commision is useless and has ruined every fishery, last on the list is the lobster fishery, congratulations you have regulated yourself out of a job. One of my good friends worked for NOAA on the bigalow, i know all your crooked shit to fit any agenda you get funded for. You morons dont even know how to tow a net or to find fish, it takes decades of experience and dedicated and sacrificing your family to understand the cylces of fish. Someday your whole commsion will run out of funding, and you will get whats coming to you.

A gauge increase? Im really glad you all sleep well at night, come fishing for a day with me or other fishermen that go hard to provide, you have never talked to the actual fishermen because you wont find them, theyre fishing.

Sincerely,
Thanks for killing the american dream.

Brandon

Caitlin Starks

From: Brian Pennell <bpennell415@gmail.com>
Sent: Thursday, April 25, 2024 3:09 PM
To: Comments
Subject: [External] Gauge increase

As a third generation maine lobsterman I believe the gauge increase scheduled to take place in January of 2025 is wrong. I believe more time is needed to study the impacts this will have on our fishery.
Sent from my iPhone

Caitlin Starks

From: B A <bridgettealley5@gmail.com>
Sent: Thursday, April 25, 2024 6:06 PM
To: Comments
Subject: [External] GUAGE CHANGE

To whom this may concern, I am writing today urging the commissioners to delay the guage change. While this change may seem necessary to your agenda's timeline, keep in mind it is also necessary for our industry that a full analysis be conducted prior to any changes. A change such as this potentially has severe and likely negative outcomes for our industries market.

As you are well aware, the lobster industry has been under increasingly strict regulations for many years and we have remained in compliance.

Lobster fishermen deserve a break and a fair chance to work the job we know best. Lobsterfishing is not a an easy job but it's the job we all grew up learning how to do!

Please consider this request, as our future depends on critical thinking on all levels.

Thanks for your time,

Bridgette Alley

Caitlin Starks

From: Caitlin Trafton <caitlintrafton@yahoo.com>
Sent: Friday, April 26, 2024 5:31 AM
To: Comments
Subject: [External] Delay Lobster Gauge Change

Dear Respected ASMFC,

My name is Caitlin Trafton and I have worked on lobster boats for nearly 20 years on and around Swan's Island, Maine.

In recent years, I have attended most meetings to be informed about this fishery. At these meetings it is apparent to me that the lobstermen and staff that study lobsters have different ideas about the health of the lobster fishery. Lobstermen time and time again are saying that surveys are not being done where lobsters are. What I have seen, is that lobstermen are being ignored and disregarded despite their experience and interest in the American Lobster.

I will add that my experience shows a ebb and flow of lobster stock like any natural resource, I have seen no decline. Some years are better than others. Please consider giving lobstermen an opportunity to show that.

Please postpone the gauge change until more diverse and long-standing data is shown. I also would like to reiterate that more input from lobstermen would prove useful; as we are the ones that are on the water day in and out for the majority of our days.

Thank you for reading this letter. I am grateful for this opportunity to speak on a matter that my life and future depends upon.

Caitlin Trafton
Swan's Island, Maine

Sent from Yahoo Mail for iPhone

Caitlin Starks

From: caleb hale <calebhale1989@yahoo.com>
Sent: Friday, April 26, 2024 11:28 AM
To: Comments
Subject: [External] Gauge increase

A gauge increase would be severely detrimental to the lobstering community as a whole. Less catch and the low prices will make it near impossible to make a living lobstering. It will not only cause financial harm to the lobstermen, but will also have the same effect on deckhands dock workers boat builder lobster dealers and so on. There are other ways to help the lobster population that certain people feel is on a decline other than a gauge increase such as lobster hatcheries and further studies. I am opposed to this increase just as many other lobstermen and lobster women are in fishing communities.

Caitlin Starks

From: Cassie Pinkham <cpinkham86@yahoo.com>
Sent: Friday, April 26, 2024 5:21 PM
To: Comments
Subject: [External] Lobster measure increase

I am a Lobster fisherman from Maine. The lobster measure increase will not only hurt the Maine fishing community but is also not needed. There is a lot lf juvenile lobsters in the Gulf of Maine. The surveys go to the same places year after year and do not move to deeper water where lobsters have now thrived. Please do not increase the measure, it could cripple the whole Maine fishing community.

Caitlin Starks

From: Charlie Smith <charliesmith196395@yahoo.com>
Sent: Thursday, April 25, 2024 5:33 PM
To: Comments
Subject: [External] Comments on gauge change . To start with the State of Maine should never be part of an organization that can out vote us and we catch close to 90 % of the lobsters that are caught in the US . Secondly I am a 40 year fishermen in Maine and ...

Caitlin Starks

From: Cheryl Yeaton <cherylstarr.7@icloud.com>
Sent: Friday, April 26, 2024 9:18 AM
To: Comments
Subject: [External] Re: Maine lobster measure concerns

Sent from my iPad

> On Apr 26, 2024, at 3:26 AM, Cheryl Yeaton <cherylstarr.7@icloud.com> wrote:
>
>
> Dear Commissioner,
> The proposed change to lobster measure size is not based on facts supported by catch data or direct insight by the Maine men and women who honestly and proactively fully understand and protect the species and thus their livelyhood.Lobstemen are the professionals in this industry and would be the best advocates to be on advisory committees to partner in further truth and understanding with lawmakers.Successful business people prioritizing excellent compliant resource protection of their work environment should not be penalized for doing so. Let's keep the industry functioning well in what Maine stands for in providing sustained employment in difficult times with an industry providing a dependable and favored food source and let's also refrain from docking the income from those whose ethics are represented by the Maine Lobstering families,their successful protecting of the species in our case for six generations of lobstering.

>
> With Regards,
> Cheryl Yeaton
> Sent from my iPad

Caitlin Starks

From: Chris Wood <woodc365@gmail.com>
Sent: Friday, April 26, 2024 4:42 AM
To: Comments
Subject: [External]

To whom it may concern.

My name is Chris wood. I have worked on boats since I was 10 years old. At the age of 30 2020 I decided to buy my first boat just befor covid. Since then I have seen a record number in my eyes of under the measure lobster. Especially in the past 3 years. I got numerous pictures that back this information. Traps half full trap after trap to measure them all some obviously way under to get 1 maybe 2 keepers. With the was costs of fishing have risen so much over the past few years I fear many in this lively hood including myself will not be able to make a living or keep going with a measure increase. I feel like befor you make this decision for the entire industry you should think of the repercussions this will have on everyone that is tied into the industry not just the fisherman. Possibly maybe do a survey in the summer or speak to fisherman from the different zones on when the lobsters are in fact in the area and survey then not in the fall when they hardly move or in the middle of the slump that occurs at different times up and down the coast. I feel as if your numbers and science on this topic are far from right as do many others. Maybe listen to the fisherman for once and take the input of us whom are out there daily that there is absolutely no need for a increase there is more undersized lobsters now then I've seen in my life.

Thank you for the opportunity to give my incite on this topic.

Caitlin Starks

From: Clint Libby <libbylobsterpound@gmail.com>
Sent: Friday, April 26, 2024 9:52 AM
To: Comments
Subject: [External] Stop the increase

A measure increase would be great hardship for many family. It also would hurt my lobster buying station and the fishermen who sell to us.
Many of our fishermen fish the gray zone, and it's very frustrating that the Canadian fishermen can sell oversized lobsters and we have to toss them back to have them crawl into their traps to be sold in Canada.
They have a huge advantage already and with a measure increase it would strike us yet again causing a serious decrease for American fishermen in the future.

Caitlin Starks

From: collin lamprey <warriorsfball72@gmail.com>
Sent: Thursday, April 25, 2024 6:34 PM
To: Comments
Subject: [External] I OPPOSE THE GAUGE INCREASE

The gauge should stay at 3 1/4!!!

Sent from my iPhone

Caitlin Starks

From: Dakota Dunphy <dangerdun@icloud.com>
Sent: Thursday, April 25, 2024 6:27 PM
To: Comments
Subject: [External] GAUGE DISPUTE

Good evening, to whom it may concern.

My name is Dakota Dunphy, and I am emailing this comment in regards to the Lobster gauge raise. This gauge raise is fueled by misinformation and needs much much more concentration before something This drastic is decided for our industry. It is no surprise that a raise in our measure is being considered, due to the recent wins in our battle against the north Atlantic, right whale conservation. Our industry is under a steady fire. We need a break, we need for the people we voted for to battle for us in this decision. we are extremely over regulated on every piece of equipment we operate with. We are a massive influence on New England's economy. This measure is simply another ploy, to dismantle our way of life.

Sent from the sea

Caitlin Starks

From: Dave Johnson <quahaug@comcast.net>
Sent: Thursday, April 25, 2024 5:01 PM
To: Comments
Subject: [External] Maine lobster gauge change

Dear commissioners,

Please reconsider addendum 27. More time is needed to determine what appear to be severe market disruptions due to the gauge change. We don't have enough information to implement this change.

Respectfully

Dave Johnson
12 Skywatch Lane
Harpswell ME 04079

Sent from my iPhone

Caitlin Starks

From: Donald Wotton <wottondonald@gmail.com>
Sent: Thursday, April 25, 2024 6:01 PM
To: Comments
Subject: [External] Addendum 27

I am writing in opposition to the guage increase.

I have been lobstering for over 50 years and do not agree with how the surveys are conducted. It is impossible to get a fair and accurate assessment when Lobsters are spread out from 0 to 80 fathom at the same time.

The current measure puts brute stock back in the water and the brute stock is the best its ever been.

Donald Wotton
F/V REDLADY
New Harbor, ME

Caitlin Starks

From: DOUG MAXFIELD <dougmaxfield@comcast.net>
Sent: Thursday, April 25, 2024 7:25 PM
To: Comments
Subject: [External] no gauge increase

once again over-reaching management, who's main concern is self-preservation, is creating a problem where there is none. Find another way to justify you existence and leave the gauge alone.

Caitlin Starks

From: Doug.Laura McLennan <lobstarz@hotmail.com>
Sent: Thursday, April 25, 2024 8:58 PM
To: Comments
Subject: [External] American Lobster Gauge Increase

To the members of ASMFC,

My name is Douglas McLennan. I am a 12 generation fisherman from Maine, and have been a lobster zone council member for over 20 years, representing Zone D, district 7, Spruce Head, South Thomaston Maine. I feel as a group of fisherman, along with the 6 zones, that we were not heard or taken under consideration with the measure increase that has been implemented on the American Lobster fishery.I feel the science used by the state is flawed , and the state didn't listen to the people who live the industry.If the state is worried about the settlement of lobster, they should be using the large lobsters to produce more settlement, than trying to do so with the small measure. Using the juvenile stock to rebuild settlement isnt the scientific method, when a larger lobster will produce 5 times the reproduction than a juvenile lobster. We have area 3 boats from out of state fishing on the area 1 and 3 line all the way up the coast in the winter, taking big females that migrate off the coast for the winter. This practice has become more popular over the last 15 years. We as a zone council have made this clear to the DMR of Maine. Our Maine lobster industry lands 90% of the lobster on the East Coast. Maine has the most restrictive rules for conservation, as you are aware of. As fishermen, we are not represented well at the Atlantic States Commission. We rely on our Commissioner , Pat Keliher, and a member of the Marine Resources Committee for our voice. I feel that voice is not what the industry is saying. There is a huge disconnect between industry and regulators at a state and federal level.Maine has been using the same lobster measure since 1989. The industry has seen 2 huge spikes in landings, and we have had a good ,strong industry. The problem is not the resource, it is regulation from NOAA, and ASMFC. By having our Commissioner present the measure increase to ASMFC as a problem facing the resource is truly a false situation of our resource. By doing so, and having the trigger met, setting off a double increase, we have now created a secondary problem with the international market with Canada, involving the Mitchell Act, of Mugnuson Stevens. There is no way to determine what Canada will do either way with the trade if the Mitchell is up held or repealed. Either decision could cause a huge problem for trade. If we do not allow them to export smaller than our gauge lobsters into the USA, they may refuse our lobster for trade during our peak production. If we do allow the change, and Canada can fill the void in market caused by the measure increase, it will put USA dealers , and harvesters at a huge disadvantage on the global lobster market.All this trouble caused by flawed science from Maines DMR.Did anyone do a economic study of the results caused by this measure increase?Is there not a law a study must be conducted before any major rule changes are implemented? What about a social impact study?This could cause a huge economic hardship in our industry, which is already at a tipping point in todays economy, forever changing the coastal towns in Maine, where lobstering is the economic driver for many people, and supporting businesses.There were many meetings held with fishermen over the last 18 months about the measure increase, and all 7 zones showed ZERO support for the DMR regulation change. The entire industry feels that we have no say in regulation, and that our Commissioner is using ASMFC to implement regulation that couldnt be accomplished at a state level. The collapse of Southern New England is being used as a driving point behind this regulation. Fishermen were paid off settlements from pesticide spraying in Long Island Sound, and the collapse wasn't caused by the lobster industry. If it is climate change that is a concern, the measure increase isn't going to stop that any more than installing wind turbines in the ocean will. This measure increase needs to be revisited, using better science, on more than just the resource , but the economic and social results considered. 35 years under the same measure is a solid record to dispute as being a problem in the industry.The lobster dealers, and harvesters will feel the economic hardship this will create, by losing the small “chick “ market. The impending hardship on the 2028 horizon with whale regulations is coming fast, and will surely be a effort reduction.There is no pause button in the current regulation. People start to lose their boats and houses and fall into economic hardships over bad science would be devastation to the coastal communities.

Thank You ,Douglas McLennan

Caitlin Starks

From: Dwight Chandler <chandler8397@gmail.com>
Sent: Thursday, April 25, 2024 8:06 PM
To: Comments
Subject: [External] Lobster gauge increase

I urge the commission to delay and reconsider the gauge increase.
Sent from my iPhone

Caitlin Starks

From: Elew Mompittseh <elewmompittseh@yahoo.com>
Sent: Friday, April 26, 2024 8:30 AM
To: Comments
Subject: [External] Addendum 27 comment

Hello,

I'm writing you today to address Addendum 27.

We need to delay the gauge change long enough to conduct a full analysis on the severe market implications expected as a result of the trigger.

Hindsight is not an option when tampering with such a large part of local economy, food sources, and lives. We need short and long term full analysis before any changes are made.

I grew up on the lower Cape, when there was a 50 boat fishing fleet and an active ice house on the wharf in P-town. In the 80s Georges Banks was closed which left our fishermen traveling much further to fish. In Hindsight, this cost Lives. We lost family members on the Victory II, and they were not the only boat to go down directly related to having to go too far out, or into unfamiliar areas due to Georges Banks restrictions.

Our small commercial boats were never the cause of depleted fish in the banks, but all the while massive foreign fishing vessels were allowed to sweep the area.

In Hindsight, directly related to the closing of Georges Banks, there is no longer a fishing fleet on the lower Cape, instead of 50 boats and an active Ice House, we have 5-7 boats and flower pot benches on the wharf.

Now I live in Maine and see the same pattern starting again. Please listen to the fishermen this time, please please do a full analysis...because hindsight is deadly in too many ways.

Thank you,
Aurelia

Caitlin Starks

From: Elijah Brice <briceboatworks@gmail.com>
Sent: Friday, April 26, 2024 10:02 AM
To: Comments
Subject: [External] Maine Guatemalan Increase

As a commercial lobsterman, and boat builder, I do not support the gauge increase.

It will not be beneficial to our industry, it will continue to feed the divide between the Canadian and US commercial fishery, and it will cause financial harm to all fishermen and related business.

I operate a fishing business on the Canadian border in Eastport, ME. I already release oversized male/female lobsters from my traps, that can be caught just a few hundred feet over the border by Canadian fishermen.

With a gauge increase, Canadian fishermen will also be able to take our short lobsters. This amendment will provide no benefit to the conversation of our resource.

More extensive research should be done to provide more information on juvenile lobster counts. Reports from the vast majorities of fishing ports, including my own, heavily contradict the research done that claims a low stock of juveniles.

This is a rash and unnecessary change that does nothing other than control the resource under the guise of helping our industry.

Caitlin Starks

From: Erik HANSEN <erikhansen1214@gmail.com>
Sent: Friday, April 26, 2024 6:37 AM
To: Comments
Subject: [External]

I've been lobstering since age 12 I'm now 49. The science that says there is a decline in small lobster is false, especially in my area, I've never seen so many. Please don't increase the measure it will just box out Maine from the Canadian market. We boarder Canadian fisherman that can catch the lobster that we release. Makes no sense, it's the oversized lobster that are the big breeders. Thanks Erik

Caitlin Starks

From: Glenda Beal <designersdaughter2@gmail.com>
Sent: Thursday, April 25, 2024 9:05 PM
To: Comments
Subject: [External] Stop measure increase

To ASMFC:

I am the chairman of the selectboard of the Downeast island community of Beals, Maine. I am also the wife of, mother of (2), daughter of, and niece of current lobstermen. For generations, our island people have lobsterfished to support our families, all the while protecting our resource for future lobstermen.

Currently, the planned increase of the small lobster measure is not only going to hurt our families and our town economically, but we will also be forced into unfair competition with our neighboring country's lobster industry. Canada already keeps our best breeders, our "oversize" large lobsters, which Maine fishermen have chosen to protect. They are selling our breeders, which cannot be compared in egg bearing capacity, to the smaller lobsters you are telling us must remain on bottom now for "breeding purposes." The larger lobsters are the MOST important to keep on bottom for egg production, not those small lobsters. If you're truly interested in preserving our industry's future by protecting breeder lobsters, it's time to pressure Canadian rule makers to adhere to OUR CURRENT large lobster measures, not force a lower gauge increase on our Maine fishermen.

Furthermore, data that you gathered in your sampling is not a true picture of juvenile lobster population, as lobster settlement numbers have shown. One year of your sampling should never be used to make drastic rule changes like a measure increase. All types of data should be considered, including what fishermen are actually seeing, as well as the scientific samplings of outside sources. Many variables could effect the data and should be considered, such as water temperature or recent storms. Fishermen will tell you that just when it looks like nothing is on bottom, suddenly the lobsters all begin crawling and trapping in large numbers. If your sampling is taken before lobsters move and trap, of course you could be convinced there's a tremendous decline in population. We believe this is what may have happened this past season's sampling. By postponing the gauge increase, and considering all data collected, I believe you may indeed see there is no need to change the measure at all. Please postpone the measure change.

Sincerely,

Glenda Beal

Caitlin Starks

From: Hayden Jones <hjones2723@gmail.com>
Sent: Thursday, April 25, 2024 7:15 PM
To: Comments
Subject: [External] Lobster gauge comment

Hello,

My name is Hayden Jones, I am a lobster fisherman from Vinalhaven Maine I would like to comment that a gauge increase would be detrimental to all lobster fishermen. We can't afford to go up on the measure it will bring our catch down for years to come until the population is able to be harvested at the new size. The way the economy is we will be hurting very bad financially. I think that the testing of how lobsters are counted needs to be changed. I've lobstered since 2010 and can see a difference that lobsters are in deeper waters now on way different types of bottoms that I didn't fish when I started. There should be more research in this before we make a decision to go up. Maybe like a different type of test to gather data would help a lot. I think if that is done you will find that there are a lot more lobsters that what is being recorded now. What ever happened to lobster seeding in Stonington? Stuff like that should be done again. We had some of the biggest hauls that I've ever seen on the east side of Vinalhaven when that was being done. Things like that could really create a big boom for even more lobsters even though there is plenty around. Also if we went up on our measure and Massachusetts and Canada didn't, they would catch the lobsters that we let by. Lobsters move all the time, those lobsters would be caught right up. It wouldn't make sense for us to do that because our buyers would be buying Canadian lobsters smaller than what we could keep? Is that correct or am I wrong?

Thank you
Very respectfully,
Hayden Jones

Caitlin Starks

From: Heidi Budd <hmbudd@aol.com>
Sent: Thursday, April 25, 2024 3:30 PM
To: Comments
Subject: [External] Lobster gauge increase -some deep thoughts

I am an individual HEAVILY vested, for generations, in the Maine lobster fishing industry (it's SO much more than merely an industry that I hate to even call it that-it's Maine's iconic fishery, it's a tradition, it's a lifestyle, it's an IDENTITY, it is a sustainably harvested source of food…)

It is imperative that true, non-biased, statistically sound , reproducible studies be conducted and then VALIDATED by key stakeholders. Proof beyond doubt that changes are in the best interest of the fishery.

My father, my uncles, my brother, my nephews, my son, my daughter, and myself want nothing more than for the lobster population be bountiful for generations to come.

Listen to those on the water……and trust me when I say lobstermen are keen stewards of the sea and will protect their livelihoods to the ends of the earth, and if lobster measure size changes were a wise intervention, don't think for one minute they would not be demanding it themselves. They would be the first to suggest it.

Respectfully, Heidi Yeaton Budd

Caitlin Starks

From: Caitlin Starks
Sent: Friday, April 26, 2024 9:41 AM
To: Comments
Subject: Fwd: [External] Gauge increase

-------- Original Message --------
Subject: [External] Gauge increase
Date: 2024-04-26 04:57
From: Herman Coombs <hlc7346@gmail.com>
To: cstarks@asmfc.org

I understand that the recruitment hit 39% but not using more than one year is doing a disservice to lobster fishermen. Everyone knows that populations ebb and flow with good times and not so good times. The recruitment from this year from what I read it up which would put us back up over the 39%. I don't agree using one year for a sky is falling approach. More than one year needs to be used before making a drastic change.
Herman Coombs
F/V Jocelyne K
Orrs Island Me

Caitlin Starks

From: Holly Kiidli <holly.kiidli@gmail.com>
Sent: Thursday, April 25, 2024 3:32 PM
To: Comments
Subject: [External] Delay Gauge Change!

Please delay gauge change long enough to conduct a full analysis on the severe market implications!!!!!

Holly Kiidli
Winslow Maine Resident

Caitlin Starks

From: Jack <highseasailor@msn.com>
Sent: Friday, April 26, 2024 9:25 AM
To: Comments
Subject: [External] Lobster Gauge Increase

Dear Sirs,

I am a Maine lobsterman with over 50 years of experience in the profession in the Mount Desert Island area. This past year-2023- I saw more small lobsters in my traps than I have seen in the past 10-12 years. The increase will also great effect the bottom line of just not me but the entire industry in a time of great financial stress. There is no current need for the increase and will only lead to hardship. Please refrain from implementing the increase for further stock studies.

Sincerely,
Jack Cunningham
Maine License #28

Caitlin Starks

From: popclemons@icloud.com
Sent: Friday, April 26, 2024 7:41 AM
To: Comments
Subject: [External] Gauge increase comments

Hi , My name is James Clemons . Have been a full time lobsterman captain since 1975 and student lobsterman since 1963. I have both inshore and offshore experience . I definitely believe that a gauge increase is the WRONG approach to increase the brood stock in the lobster fishery . You must take action to save the older -larger brood stock , from foreign fishing fleets , instead of trying to increase the young juvenile brood stock . A increase in the lobster measure will only HURT the Maine lobster industry ,with loss of product and loss of THE EXISTING Large brood stock to Canada! . Definitely DO NOT increase the min . lobster measure . Thank you .

James Clemons
23 Windsor Ln
Harpswell, ME 04079
207-504-7896

Caitlin Starks

From: James Hardison <atlantictreeservice@yahoo.com>
Sent: Thursday, April 25, 2024 5:43 PM
To: Comments
Subject: [External] Gauge increase

We absolutely need to take more time to see what is happening before this gauge increase happens , I've seen more small lobsters than ever before the last season, please let the natural reproduction of these lobsters take effect before you up end something that's not broken or needs help, thank you

Sent from Yahoo Mail for iPhone

Caitlin Starks

From: James Robbins <jamesrobbins5564@gmail.com>
Sent: Friday, March 22, 2024 9:28 PM
To: Comments
Subject: [External]

The lobster fisheries is being severely over fished, the only way it will survive is to cut back on the amount of lobster traps people are fishing and stop giving out lobster licenses. Trap limit should be cut back to 400 traps per fisherman and this would give the lobsters a chance to grow and reproduce. If you would to have some of my lobster knowledge feel free to reach out to me for I have been lobster fishing for 51 years now and have seen alot of changes in the fisherie.

Caitlin Starks

From: Jason Joyce <lobstermobster729@yahoo.com>
Sent: Thursday, April 25, 2024 10:56 PM
To: Comments
Subject: [External] Please reconsider the proposed Area 1 minimum guage increase

DEAR COMMISSIONERS,

My name is Jason Joyce. I am an 8th generation lobsterman from the unbridged Island fishing community of Swan's Island on the edge of downeast Maine.
The proposed minimum guage increase in area 1 to be implemented in 2025 will harm my fishing community, my business and the lobster markets and dealers here in Maine. The primary resource concern targeted by this trigger mechanism is actially in abundance in our traps and the traps of fishermen in our neighboring fishing communities.
The negative effects of enacting this guage increase will be felt throughout Maine's coastal communities and we collectively ask that you reconsider the measure increase slated for 2025 until you have more reliable data to justify it's enactment.
We applaud measures within Addendum 27 which protect the strongest and most effective contributors to the health of the lobster resource, the oversized lobster. We also encourage your focus on protecting the large lobsters which produce a stronger and more resilient settlement and resource.
Maine's sustainability example of protecting oversized lobsters with a zero tolerance for all v-notched females has proven to be a winning combination. Maine's conservation measures have sustained the entire gulf of Maine fishery, inshore and offshore.

Thank you for your time and service to marine resources,

Jason Joyce

Capt. Jason Joyce
20 Grindle Road
Swan's Island, ME. 04685
207-479-6490

Caitlin Starks

From: Jed Miller <jedmiller62@gmail.com>
Sent: Thursday, April 25, 2024 6:11 PM
To: Comments
Subject: [External] Measure and vent increase

My names is Jed Miller, I lobster out of Tenants Harbor. I believe the vent and measure increase is unwarranted and not based on factual science. I've even spoken to some samplers about this and they said the data they collect and submit is not being accurately represented, is being overlooked, and bluntly changed and falsified. The fact is we are seeing as many egg bearing females as ever, if not more. Seeing more hatchling lobsters definitely than ever before, and plenty of sub legal lobsters. I think the measure and gage increase would significantly harm the industry, to a point of being unsustainable financially, and effectively bankrupting the industry at a time where many many lobstermen are on the brink already. We suffered enough, from dealers colluding and price fixing to the downward to the point of collapse, to whale regulations for whales that rarely come into our areas, to offshore wind threatening to take over our bottom and destroy the habitat around them, along with killing whales while doing so only to have the blame placed on us. What's the objective here? What's the ultimate goal? These increases will not save the industry any more than status quo, just delay legal size and let more out of the traps. That is my opinion, thank you-Jed Miller

Caitlin Starks

From: Jeffrey Libby <dadscrew@gmail.com>
Sent: Friday, April 26, 2024 9:46 AM
To: Comments
Subject: [External] Measure increase

A measure increase would be great hardship not only for my family but also for the 2 other families that depend on my catch for a living.
I fish the gray zone, and it's very frustrating that the Canadian fishermen can sell oversized lobsters and we have to toss them back to have them crawl into their traps to be sold in Canada.
They have a huge advantage already and with a measure increase it would strike us yet again causing a serious decrease for American fishermen in the future.
Jeff Libby

Caitlin Starks

From: Jennie Durkee <jenstelle@yahoo.com>
Sent: Friday, April 26, 2024 8:16 AM
To: Comments
Subject: [External] Gauge Size

The lobster fishing industry will be greatly impacted by a gauge size change. This change would likely be devastating economically, ecspecially for inside, smaller fisherman and that economic impact would trickle down to all other businesses on the east coast and beyond. We have conservation methods in place already with size limits that insure oversize lobsters will mate and reproduce without fail. New england fisheries are not a problem. Canadian fisheries keeping oversized lobsters are not the fault of U.S. fishermen. A gauge change, ecspecially without a lot of further research, could and likely will negatively impact our fishery and the economy for many years to come. This would in turn put more strain on other fisheries as well.
I highly suggest, as a five generation lobster fishing family member, you take more time to fully consider other options and put a stop to Addendum 27 before it destroys New England.

Best regards, Jennie Moraisey

Caitlin Starks

From: Jesse Bagley <jesse_bagley@yahoo.com>
Sent: Thursday, April 25, 2024 9:25 PM
To: Comments
Subject: [External]

I oppose the gauge increase. There is no shortage of short lobsters up and down this coast. You ask any fisherman out there we've all discussed online on how many short lobsters and Eggers everyone was seeing 2023 fall fishing season. This is completely unnecessary and your data is wrong. Ask people that spend everyday out there whats going on. And then the economic impact this will cause on already a piss poor economy will be devastating. -Jesse Bagley

Caitlin Starks

From: Jessica Pooley <jessicapooleyrealtor@gmail.com>
Sent: Friday, April 26, 2024 6:49 AM
To: Comments
Subject: [External] Lobster gauge!!

Please delay the gauge change long enough to conduct a full analysis on the severe market implications expected as a result of the trigger.

Thank you,
Jessica Pooley

Caitlin Starks

From: Ericka Jeffers <captcolie@myfairpoint.net>
Sent: Thursday, April 25, 2024 7:16 PM
To: Comments
Subject: [External] Comment of Maine Lobster gauge increase

My name is Jim Hanscom, I'm the Vice-chairman of the Zone B Lobster Counsel and the Vice President of the Maine Lobster Union (MLU). I am 52 years old and have been going lobstering since I was 15, I urgently oppose the measure increase and the escape vent increase! I have personally never seen the amount of juvenile lobsters along with the amount of female lobsters egging out. Maine has a long standing sustainable fishery practices in place dating back to the 1940 & 50's. We know for a fact that the chick lobster represents upwards of 25% of our catch which equals market share with Canadians. The Canadians can already keep a larger and smaller lobster then Americans. By imposing these regulations, it will only create economic harm for American Fishermen and economic gain for Canadian Fishermen. If ASMFC is truly concerned about the lobster stock in the Northeast Atlantic they would put there efforts into convincing/requiring our Canadian fishery to the North and the Southern New England Lobster Fishery to adapt Maine's lobster gauge both on the small and large side.

Thank you for your consideration.

Jim Hanscom
Bar Harbor

Caitlin Starks

From: Jim Kimbrell <jimthepotter002@yahoo.com>
Sent: Friday, May 31, 2024 7:03 PM
To: Comments
Subject: [External] V-notch comment

I vote Yes, increase the minimum size.
Previous increases did not put people out of business.

Jim Kimbrell
14 Maxwell Ave
Lamoine
Maine

.
Sent from my iPad

Caitlin Starks

From: Culver, Joel, A (Serco NA US) <Joel.Culver@serco-na.com>
Sent: Thursday, April 25, 2024 3:49 PM
To: Comments
Subject: [External] GAUGE CHANGE
Attachments: image003.png; smime.p7s

Greetings:

The lobster industry is self sustaining, the current gauge is perfectly fine for lobstering.

vr

Joel Culver
DDG Engineer
Serco-na METS
207-371-8535
Cell 207-751-5286

Joel.Culver@serco-na.com

Caitlin Starks

From: John Crane <jcrane58533@gmail.com>
Sent: Thursday, April 25, 2024 8:58 PM
To: Comments
Subject: [External]

Hi, my name is John Crane V, I am a fifth generation fisherman out of Port Clyde. I started lobstering when I was 10 years old with a student license and worked my way up to be a full time commercial lobsterman fishing 800 traps. From my experience spending 150+ days at sea each year. I see a very healthy and growing lobster population. I think increasing the measure is an unjust act against a problem we don't. The measure increase will create a hardship across the whole lobster industry and will not protect the lobsters. Please consider stopping this change.

Thank you for your time,
John Crane V
F/v Sylvia C., Port Clyde, ME
207-691-1816

Caitlin Starks

From: John Drouin <rebbiesmistress@gmail.com>
Sent: Friday, April 26, 2024 8:24 AM
To: Comments
Subject: [External] Addendum 27

We were told we had until 10:00 a.m. today, 4-26-2024, to submit a comment on Addendum 27.

My name is John Drouin and I am a lobster fisherman from Cutler Maine.
Cutler is the epicenter of the area called "the gray zone".

It seems to me that the commission passed Addendum 27 without proper thought to the "unintended consequences". From the major implications in the gray zone to the market issues that the dealers are facing along with possible "science" issues and the strong economic strains that this will cause to the fishermen....it seems to me that the best action you could take is to delay the implementation of Addendum 27 for at least a year, and look at the issues that have surfaced.
I would love to take the time to dive into these issues more deeply, but in order to keep this short and to the point, a delay in implementing addendum 27 should be considered by the commission.
We have all complained about how NOAA seems to pass regulations without proper guidance, and it would be a shame for ASMFC to follow in their footsteps!
With proper time, all parties can explain the issues and then we can move forward from there.
The lobster stock will not suffer from a year delay for you to fully understand the implications that will happen once addendum 27 begins...I personally, would love to explain the gray zone issue to the commission and hopefully educate you to the size of the area, how fishing is conducted between the two countries, on more species than lobster, and the ramifications of any regulations that are passed without taking in what will happen to the fishermen in the gray zone.
But first, we must delay the implementation of addendum 27.
Thank you, I truly hope you take our concerns to heart and listen to all the recent comments.
John Drouin

Caitlin Starks

From: John Harvey <johnharvey6780@gmail.com>
Sent: Thursday, April 25, 2024 5:31 PM
To: Comments
Subject: [External] Lobster Industry need you guys to hold off on the guage increase. We have to much unknow stuff coming at us .There are so many juvenile lobsters out there.You guys need to listen to the fisherman and women.Please pause the measure increase ...

Caitlin Starks

From: Jon Achorn <achorn8362@gmail.com>
Sent: Friday, April 26, 2024 8:31 AM
To: Comments
Subject: [External] Measure increase

To whom this my concern,
The measurement increase needs to be pushed back. I'm in all support to keep the lobster stalk strong and be around for generations to come, but a measure increase right now is not the answer. Lobstermen are fighting so many battles right now and last thing they need is another hoop to jump threw. This measurement increase effects alot more then just the lobstermen. The data and science behind the measurement increase is not appropriate to what needs to be done to justify the increase. Lobster fishing is always changing and it's up to the fishermen to change there ways in order to keep being successful. Spots there was lobsters there is no more, and spots you couldn't catch any now you can. I personally have noticed alot more little lobsters further and further down, it's not the lobster stalk depleading as much as the lobster grounds moving. I urge you to move back the measurement increase until there is appropriate data, along with a better understanding of what the impact would be to the whole industry and those who are supported by it.

Jon Achorn

Caitlin Starks

From: Joseph McDonald <lobsterlovah@gmail.com>
Sent: Thursday, April 25, 2024 6:08 PM
To: Comments
Subject: [External] MAINE LOBSTER MEASURE INCREASE

To whom it may concern, As a full time second generation fisherman from Jonesport I do not support this measure increase. This was dropped on us in less than a year when the commissioner brought it up at zone meetings. There needs to be more studies done on sub legal lobsters. Towing over the 100 fathom edge in June is not going to tell you there's any snappers because they aren't out there in June. All lobster fisherman could do 5 trap survey to support what we're all seeing more small lobsters with eggs than ever. We cannot let the Canadians keep taking our lobsters. This increase will hurt every fisherman on the coast for more years than we can afford. SUSPEND THE MEASURE INCREASE!!! -Joseph McDonald zone A second generation and god willing my daughter can be third generation if we can keep politics out of Maine lobster fishing.

Caitlin Starks

From: Joshua Joyce <joshuajoyce75@gmail.com>
Sent: Thursday, April 25, 2024 10:16 PM
To: Comments
Subject: [External] Opposition to the measuring increase.

As a participant in the ventless trap survey from 2009 to 2012. And then again in 2020 to 2022. I'm seeing that this program has not evolved the way the fishery has. So ventless is archaic and out of date when it comes to catching lobsters. The ventless program pays participants to haul traps, not catch lobsters.
I think a gauge increase is unnecessary and would have a negative effect on the fishery. Please consider postponing this.
Thank You Joshua Joyce Swans Island.

Caitlin Starks

From: Kelsey Fenwick <kef3me@gmail.com>
Sent: Thursday, April 25, 2024 9:09 PM
To: Comments
Subject: [External] Addendum 27

Addendum 27

As someone whose income is based solely on catching lobsters, I oppose the measure increase. This measure increase will cause unnecessary and unjust hardship for the entire fishery. In my experience as a stern man fishing in several different zones in the state of Maine (from Harpswell to Boothbay to Port Clyde), the juvenile lobster population is strong and not facing a decline. In fact, many fishermen have noted increased numbers of juvenile lobsters in their traps this past year (2023). The Maine lobster fishery has been sustainable and productive for generations, please do not cause undue harm with this Addendum.

Thank you for your consideration,

Kelsey Fenwick

Port Clyde, Maine

(207)701-1765

Caitlin Starks

From: Khristi Sinford <khristimsinford@gmail.com>
Sent: Thursday, April 25, 2024 6:10 PM
To: Comments
Subject: [External] Measure increase

Dear Commissioner & team,

With the measure increase pending for January 2025. I write to you today to take a step back and look at all your information first before action is taken. To my knowledge, a full analysis has yet to be conducted. Also an analysis of the impact of the market needs to be conducted too. The seafood market brings A LOT of money into the state so people like YOU get paid. With a measure increase, it will hinder your pay and our pay. My young family consists of myself working 40 plus hours a week, my husband who fishes during the fishing months, and our 2 year old daughter. This increase will hurt us tremendously and leave me having to work overtime in order to keep us afloat which will lead to me missing out even more on my daughter's life because of the decisions made by you. Most of the people involved in the measure increase do not understand what it's like to have to work hard for their pay as no threat hangs over your head everyday. I'm pleading that this decision is reconsidered until a FULL analysis can be completed and all things are taken into consideration.

Thank you.

All my best,
Khristi M.

Caitlin Starks

From: Lindsey Alley <nawthin2it@gmail.com>
Sent: Thursday, April 25, 2024 11:17 PM
To: Comments
Subject: [External] Opposition to New Lobster Gauge Increase

To Whom It May Concern,

I am writing to express my opposition to the implementation of the new gauge increase for Maine lobster. As you may have noticed, we are experiencing record high inflation which has created financial hardship for lobstermen, and the crew members & the families this industry supports. Inflation not only affects the everyday cost of living, but also bait & fuel prices are higher than ever, while the pay for our product is low as a result of the increased cost of getting our lobsters to market. The cost of boat maintenance, repairs, insurance, traps, rope, buoys, etc. has also drastically increased due to inflation. After all of these expenses, our take-home pay is getting smaller. This gauge increase could have a devastating affect on our industry and have severe consequences for fishing families. It could also pose a safety risk if this gauge change causes catch to decline enough that captains have to lay off crew, costing jobs, and making an already dangerous job even more risky for short-staffed boats.
I'm 49 years old and have owned my own boat for 27 years. Previous to that I was a deckhand since my teen years. I fish year-round in state & federal waters, anywhere from in the shallows out to 12 miles depending on the time of year. Contradictory to your data claiming juvenile numbers are down, I am seeing an abundance of juvenile, egg baring, and v-notched female lobsters. Judging by my observations and those of other fishermen I've talked with, the future looks far more promising than your data indicates. It's my belief that your ventless trawl survey data that triggered the gauge increase is flawed and grossly inadequate. Any lobsterman will tell you that no two years are exactly alike. There are many different factors that determine a lobster's habits, i.e. water temperature, the time of year, type of bottom, bait type & bait quality. Some years they're in the shallows, other years they're deeper especially if it's been a rainy spring, and depending on water temperature. Sometimes we find them on hard bottom, other times they're on the muddy bottom. You can't conduct your trawl survey the same way in the same spots every year and expect to get an accurate stock assessment. There are too many variables. Those of us who fish for a living put a lot of effort into finding & chasing the lobsters. We have to adapt to different conditions as the lobsters do. If ASMFC is going to have regulatory authority over our fishery and our livelihoods, then you really should make more of an effort to conduct more exploratory, thorough and accurate stock assessments. There's far too much at stake to be half assing your stock assessments. Thousands of Maine lobstermen, crews, families, and the entire coastal economy depend on the accuracy of your data. The current gauge measure, vent sizes and v-notch laws have been highly effective for many years, proven successful by record landings several years running. ASMFC needs to give credit where it's due...to the fishermen who have been excellent stewards of our ocean resources, and have made it a sustainable fishery for future generations.

Sincerely,

Jeffrey S. Alley, Lobsterman
Jonesport, Maine
Zone A District 3

Caitlin Starks

From: Lisa Graham <lisa.graham1964@yahoo.com>
Sent: Thursday, April 25, 2024 4:35 PM
To: Comments
Subject: [External] Gauge change

Please delay this change long enough to conduct a full analysis on the severe market implications expected as a result of this trigger.
Thank you,
Lisa Graham- wife and mother of lobstermen Sent from my iPhone

Caitlin Starks

From: Mary de Poutiloff <muddog@midmaine.com>
Sent: Thursday, April 25, 2024 9:40 PM
To: Comments
Subject: [External] No increase lobster gauge

No increase to lobster gauge. Follow unbiased science. The lobster fishermen are seeing tons of juveniles.

Mary Beth de Poutiloff
Sent from my iPhone

Caitlin Starks

From: Mary Smith <mlsmith2904@gmail.com>
Sent: Thursday, April 25, 2024 3:18 PM
To: Comments
Subject: [External] Addendum 27 - effective 1-1-25

Please delay the gauge change until a full analysis on the severe market implications, that are expected, can be done.

The January 1, 2025 effective date does not allow time for proper review.

We must support the requests of out hardworking fishermen.

Sincerely,

Mary
Mary L Smith
Brigantine NJ

Caitlin Starks

From: matt gilley <mgilley9740@gmail.com>
Sent: Friday, April 26, 2024 9:28 AM
To: Comments
Subject: [External] Addendum 27

To whom it may concern,
I am writing to you today to please oppose addendum 27. There has been zero studies done outside the 3 mile line in federal waters. We have no idea if the settlement or larvae have moved offshore. We are also basing this decline off of record highs not a rolling average. We are getting a measure increase because we can't maintain record landings. Furthermore the fact that states that don't even have a lobster fishery get a say is not right. Please oppose addendum 27 it will devastate the lobster industry.
Sincerely
Matt Gilley
Zone F council member
F/V Catherine G

Caitlin Starks

From: knowlton.matt3 <knowlton.matt3@gmail.com>
Sent: Friday, April 26, 2024 5:53 AM
To: Comments
Subject: [External] Guage increase comments

I am writing to oppose any increase in the lobster measure. There is no logical reason to take this action. There are many factors involved in lobster population you have not taken into account.
1 The natural cycles that occur in the ocean and the effects they have on lobsters.
2. A new invasive species is taking over the bottom where lobsters hide when they shed, causing them to have to find deeper areas to shed and leaving them less protected from predators. "Squirts" have choked out whole areas, leaving once productive shedding grounds completely unproductive. This is the major concern that should be addressed.
3 Other areas are showing a dramatic increase in tiny lobsters coming up in traps.

We are already taking less lobsters and all of our expenses have gone way up.
More regulation means lobstering will no longer be a viable living.

Matthew Knowlton
Deer Isle ME
license number 7453

Sent via the Samsung Galaxy S22+ 5G, an AT&T 5G smartphone

Caitlin Starks

From: Meghan Painton <meghan.painton@gmail.com>
Sent: Friday, April 26, 2024 10:01 AM
To: Comments
Subject: [External] Addendum 27

Flag Status: Flagged

To whom it may concern,
I would like to express concern about increasing the size of lobsters that can be kept and brought to market. Lobster is a very healthy and sustainable food that is part of the fabric of the Maine coast. I come from a long heritage of lobstermen and lobsterwomen. The changes that have occurred with warming waters have shifted lobsters further out. More current studies are needed to provide updated information to make informed decisions about size changes and the true impacts they will have on the future of the industry.
Thank you,
Meghan Painton

Caitlin Starks

From: Michael Mello <michaelamello57@gmail.com>
Sent: Thursday, April 25, 2024 3:02 PM
To: Comments
Subject: [External] Lobster guage increases

As a long time lobsterman going into my 58 year of fishing this increase will definitely be the end of my business. Please delay this increase so more study can be done on the impacts it will have on so many lobsterman Thank you. Michael A Mello sr

Caitlin Starks

From: Mike Fisher <fishndreamr@gmail.com>
Sent: Thursday, April 25, 2024 5:17 PM
To: Comments
Subject: [External] Lobster gauge changes

To whom this concerns,

Please delay this lobster gauge change until a complete analysis can be done to insure that's its necessary.

As you may know the lobster industry has been going through alot of challenges and changes and none seem for the better of the industry.

Thank you

Sincerely,
Michael LaCroix

Caitlin Starks

From: D'anna Beal <bcxpress2@yahoo.com>
Sent: Friday, April 26, 2024 7:27 AM
To: Comments
Subject: [External] Addendum 27

To Whom it May Concern;
This email is to address the Addendum 27. Forty-three years in the lobster industry and the changes have been astronomical to this industry especially in the last fifteen years. Addendum 27 has issues that need to be addressed. I hope this Addendum could be delayed for at least another year to allow further work with Canadian fishermen and any other flaws to be addressed.
Thanks,
Mitchell Beal

Caitlin Starks

From: myles bierman <biermanmyles@gmail.com>
Sent: Friday, April 26, 2024 1:44 PM
To: Comments
Subject: [External] Gauge increase

Good afternoon I strongly oppose a gauge increase for American lobster. I am a Maine commercial lobsterman and this will only hurt the state. The number of egg bearing females and juvenile lobsters is truly astounding. I see no reason for a gauge increase, like previously mentioned the stocks seem to be doing very well.

Caitlin Starks

From: Myles <myles.wotton@gmail.com>
Sent: Thursday, April 25, 2024 6:02 PM
To: Comments
Subject: [External] Addendum 27

I am writing in opposition to the guage increase.

I fish inshore on my own boat and offshore as my dad's sterman. I see an abundance of small lobsters at all times of the year in both areas.

The survey does not make sense to me since it did not take the entire area and a range of years into consideration.

Please conduct a fair and accurate survey before making these drastic decisions.

Thank you for your time.

Myles Wotton
F/V OLDSCHOOL
New Harbor, ME

Caitlin Starks

From: Nancy Carter <nancyc207@gmail.com>
Sent: Friday, April 26, 2024 7:02 AM
To: Comments
Subject: [External] Stop lobster gauge increase

As a wife, mother and grandmother to lobster fisherman please don't make it harder for them to make a living.

Nancy Carter

Caitlin Starks

From: Nicholas Parlatore <nicholasp195498@gmail.com>
Sent: Friday, April 26, 2024 9:01 PM
To: Comments
Subject: [External] Measure Increase

I'm a maine commercial lobsterman and have been fishing since I was 13 (25 now), and I see no need for the measure increase. The amount of short lobsters and juveniles we are already seeing has grown exponentially in my area, the fishery is sustainable the way it is, we're already doing the right things. Don't fix it if it ain't broke. Thank you

Caitlin Starks

From: Nick Faulkingham <nickf3778@gmail.com>
Sent: Thursday, April 25, 2024 4:03 PM
To: Comments
Subject: [External] Lobster measure increases.

To whom this may concern.

My name is Nick Faulkingham, I am a 6th generation commercial fisherman on the coast of Maine. I was four years old when I first stepped aboard a lobster boat, at the age of eight, I started helping my dad in the summer during school break. During this time I learned to respect the ocean and the Industry, my dad told me if you take care of the Industry, the industry will take care of you. Remembering his words I often take healthy legal select size females notch them and return them to the ocean instead of bringing them in for sale.

I read articles all the time about how things are in decline in all fishing industries. I have a hard time understanding how, When everything i see is just the opposite. The amount of juveniles and egg bearing lobsters we see in the traps is overwhelming most of the time. Some times we will have to move our gear from an area because they are so abundant. Every thing has its upside and downs.
With all of this being said the point is, I am afraid of the many ramifications the measure increases will have, Personally I do not see a need for it. It will disrupt marketing, deeply affect business and employers. Most of all it will impose a financial hardship on harvesters and families such as mine. Why try to disrupt a economy in a negative way? I feel we should be growing our economy in a positive way by implementing lobster hatcheries along the coast of Newengland and incorporating our coastal schools. This would create jobs and education. Let's not kill another Great American industry and import more dirty seafood from China or Indonesia. Keep hardworking, proud Americans in business.

Caitlin Starks

From: Peter Paradis <paradispeter@gmail.com>
Sent: Friday, April 26, 2024 11:28 AM
To: Comments
Subject: [External] Delay gage change

Science supports protecting the large females at the other end of the gage. These females produce four to five times the eggs of smaller lobsters. Laws need to be consistent in Canadian fisheries to protect these large lobsters.

Caitlin Starks

From: Rachel Brodeur <rachelmbrodeur@gmail.com>
Sent: Thursday, April 25, 2024 3:01 PM
To: Comments
Subject: [External] Addendum 27

Hello,

I am a member of a lobstering family. I believe we need more time before implementing such a harsh regulation on our already suffering fishing economy. Please reconsider this choice.

Thank You,

Rachel Brodeur

Sent from my iPhone

Caitlin Starks

From: Randy Shepard <randyshep45@gmail.com>
Sent: Thursday, April 25, 2024 6:50 PM
To: Comments
Subject: [External] Gauge increase

Sent from my iPhone. I completely oppose the increase of our lobster gauge! I've been a lobsterman for 40 years and an increase will be unneeded, unwanted and a heavy financial blow to an already over regulated industry. I can understand wanting to help the fishery but this isn't the answer! If this regulation is implemented it will put a lot of lobstermen out of business and be a horrible toll on families as well as all the businesses and communities that rely on this industry. I recommend putting it on the shelf and going after more data before implementing such a crippling rule change.

Caitlin Starks

From: Raymond Caron <rjcaron2@gmail.com>
Sent: Friday, April 26, 2024 9:02 AM
To: Comments
Subject: [External] Lobster Gauge Implementation

Please delay the gauge change date of January 1,2025 long enough to conduct a full analysis on the severe market implications expected as a result of the trigger.

Thank you,
Raymond Caron

Caitlin Starks

From: Rebecca Russell Spear <spearfamilylobster@gmail.com>
Sent: Thursday, April 25, 2024 9:21 PM
To: Comments
Subject: [External] Measure increase

Hello.
My name is Marshall Spear and I've been commercial fishing for the last 25 years. I have held a commercial license since 1987. I fish in the southern part of Maine out of Casco Bay in the summer and fall. I fish offshore in area 1 in the winters months. I fish and one fathom to 150 fathom I've seen lobster populations rise and fall in the last two decades.

For us to increase the lobster measure and thinking that it's going to help the population is not only absurd is ridiculous. They want us to change the measure, but keep the same vent size in the same year. This is going to create fighting cages for the lobsters to kill each other . If we want to do something for the resource, we should take the gear out of the water and let the lobsters do their thing without human intervention. The measuring increases is only going to continue with more handing and more mortality. No wild animal can take human pressure year-round decade after decade. We we have one of the best resources in the country and and we have no mechanism in place to protect it or stop fishing at anytime. We have no back up plan .
If we truly want to do something for the resource and help leave the Lobster alone and has seasonal closures. It will take nothing for us to have a better quality lobster and have less an impact on environment.
I strongly disagree with raising the measure increase thinking that it's going to do something for enhancing our brood stock. ASM.

Marshall spear
Fv jacalwa
Fv bay drifter
Portland me
Sent from my iPhone

Caitlin Starks

From: ty1ash2@aol.com
Sent: Friday, April 26, 2024 7:09 AM
To: Comments
Subject: [External] Addendum 27 Lobster Industry

Dear Commissioners,
Please delay the gauge change long enough to conduct a full analysis on the severe market implications expected as a result of the trigger.
Thank you,
Regina Littwin

Caitlin Starks

From: Renee Jordan-Chandler <reneeljordan23@gmail.com>
Sent: Thursday, April 25, 2024 8:23 PM
To: Comments
Subject: [External] Gauge Increase

ASMF Commission,

As the wife of a lobster fisherman and woman whose entire family are lobster fishermen, I ask and urge you to delay and reassess the gauge increase. The science behind why this would not be beneficial is overwhelmingly substantial and must be taken into consideration when you are making your final decision. I won't re-submit those details that I am more than certain you have received multiple times. You would be doing the lobster fishing industry and those who have worked so hard to create and protect it, a great disservice by putting this gauge increase into effect. There is a time and a place for change and this is not the most effective use of those resources. Please, use this as a time given to you to do what is right.

Thank you for your time,
Sincerely,
Renee Jordan-Chandler

Caitlin Starks

From: Rex Benner <rexbenner73@gmail.com>
Sent: Friday, April 26, 2024 6:24 AM
To: Comments
Subject: [External] LobsterGauge increase.

As a full time year round lobster fisherman from Maine I'd like to strongly suggest not doing a gauge increase until further studies are done. I've been doing this for 35 yrs and we are seeing more little ones now than ever!! They are just in different places and the test are done in the wrong spots!!I strongly suggest more research is done before this decision is final as it will be a major hit to this industry ,as if we need anything else to be working against us right now, take a step back and do it right and do more research!!!!
Sent from my iPhone

Caitlin Starks

From: Richard Hildings <richardh7903@icloud.com>
Sent: Friday, April 26, 2024 7:07 PM
To: Comments
Subject: [External] Measure increases

The measure increases is not needed. The measure increase would cripple the coastal communities of our state.
Sent from my iPhone

Caitlin Starks

From: Robert J Burke <rburke6112@aol.com>
Sent: Friday, April 26, 2024 10:12 AM
To: Comments
Subject: [External] Changing the measure

Changing the measure

Changing the measure very likely falls under the heading, established by the DC APPELLATE COURT'S JUNE 16, 2023 UNANIMOUS RULING, of "arbitrary and capricious" and "zealous but unintelligent" and thereby "no only wrong but EGREGIOUSLY WRONG and likely unlawful".
There is no credible, objective scientific data to support the measure change but rather the same old "guesstimation, surmise, manipulation, fabrication and/or falsification" of data practiced by NOAA in it's SARs 2007-2021. That "data" and any and all rules, regulations, and gear modifications where thereby deemed unlawful.
DO NOT CHANGE THE MEASURE UNTIL INDUSTRY INITIATED AND MONITORED SCIENTIFIC SURVEYS SUPPORT SUCH A MOVE.
Thank you,
Robert Burke
GOMER, LLC
Gulf of Maine Environmental Research, LLC
Chief Research Analyst
Sent from my iPad

Sent from my iPad

Caitlin Starks

From: russell leach <fvmygirls@yahoo.com>
Sent: Friday, April 26, 2024 9:18 AM
To: Comments
Subject: [External] My opinion

Yahoo Mail: Search, Organize, Conquer I feel we should leave the measure alone ..I oppose it and feel we should go to 600 trap limit..most everyone I talk to agree with the 600 trap limot

Caitlin Starks

From: Samuel Joy <sjoy10@gs.nmcc.edu>
Sent: Thursday, April 25, 2024 11:09 PM
To: Comments
Subject: [External] Gage Increase

To whom it may concern,
My name is Samuel Joy. I live off the coast of Maine on Swan's Island. Lobstering is my Life. Lobstering is what gives my Island community life. For years my family has been supported by lobster fishing. With all that said I say this. To make Maine increase the lobster measurer would be devastating to me my family, and my town.

There is soo much more science to discover. The DMR is naïve to think that the lobster population is declining. They are solely basing their data that they generate. The methods that they use to collect that data is sporadic and unreliable. The ventless program is a joke. To assume that a computer will find a lobster by picking a random place in ocean is ridiculous. The DMR needs to out source the data collecting process, so that we can say we did everything we could do before we make this decision. There are tons of lobsters out there they just need to know where to look.
I also propose that we do everything we can to protect the bigger lobsters. Especially the females. If there was a way to decrease the bigger measure I think you would have way more support. Have a male/female gage. We need to protect the breeders.

This decision will cause a huge decrease in wages and will hurt the lobster fishing industry for years to come. I pray you reconsider and wait till you have explored every possibility.
Respectfully yours - Samuel Joy

Caitlin Starks

From: Scoop Mason <deadmail57@gmail.com>
Sent: Thursday, April 25, 2024 3:57 PM
To: Comments
Subject: [External] Leave the Lobsters Alone

Leave the lobster business alone . Maine fishermen have successfully managed their industry for many many years . Likely longer than your organization has been in existence . Go " manage " something else .
We have enough trouble coming with the foolish windmills …the bs with the whales ….the bait supply etc etc without you getting involved in making MORE rules and restrictions .

Just like the Maine Shrimp business …..LETS SHUT IT DOWN ….so the Chinese / the Russians / and everybody else who fishes feet from the border with international waters ….

Tell us what kind of wood we can't burn to heat our homes in the winter …what kind of motorized cars to drive ….where we can't grow vegetables anymore because of forever chemical contamination in our house

Maybe spend some time with all the chemicals people are spraying to cure the tick problem ….in ten years when the birds are gone and the bee pollinators have all died somebody will decide THAT was a bad idea too …..

Leave the lobsters alone .

Caitlin Starks

From: Shane Carter <fvemilycatherine@gmail.com>
Sent: Thursday, April 25, 2024 3:21 PM
To: Comments
Subject: [External] Addendum 27

Dear commissioner's,

As a life long lobsterman from bar harbor maine it has always been critical to me for a sustained lobster fishery. Addendum 27 and the proposed gauge increase need time to be fully vetted. For more than 50 years our fishery has relied on a maximum size and v notch as the tools of choice for sustaining our fishery. The idea that we would throw out all that has worked to such great success is maddening. Let's take another year and do some real research on what the implications of this law may be. Science has struggled at best to keep up with the ever changing gulf of maine. We as fisherman have never seen so many tiny lobsters but because of changing water temperatures the state is struggling with their model to understand this. Lobsters have worked slightly deeper and scientists can't keep up. To close if something must be done lets look at coming down on the maximum. It has worked for generations and can again.

Sincerely,
Shane Carter

Caitlin Starks

From: Shane Hatch <shanehatch86@gmail.com>
Sent: Friday, April 26, 2024 5:56 AM
To: Comments
Subject: [External] Gauge increase

Goodmorning,

I am in opposition of the gauge increase for Maine Lobster until there has been better analysis of the implications to the markets involved. This ruling will have huge impacts on the industry as it would lose the “chick” market entirely. This would allow Canada to fulfill that obligation and leave more hardship for the American people involved. Along with the market situation, fisherman would have far less product to fit into the smaller slot size. Putting more pressure on the small families of Maine and their generational way of life.

Please take my comments into consideration Thank you, Shane Hatch

Sent from my iPhone

Caitlin Starks

From: Shaun McLennan <fvthunder@gmail.com>
Sent: Thursday, April 25, 2024 6:10 PM
To: Comments
Subject: [External]

I strongly oppose Addendum 27

At minimum, Addendum 27 needs to be postponed to study the impact.

And to have a law changed to allow Canadian product allowed into the USA to fill the chick market is completely unacceptable.

I think something to consider is the massive amounts of larger and oversize lobsters that are brought to market from neighboring states and Canada. That is our breeding stock that has been protected in Maine for generations. These lobsters are caught in the GOM and then sold. That, to me, is a much bigger issue than trying to alter our measure, which has proven its sustainability for several decades.

Caitlin Starks

From: Shawn Baumgartner <baumgartner8411@gmail.com>
Sent: Thursday, April 25, 2024 8:50 PM
To: Comments
Subject: [External] Lobster Gauge Increase

A gauge increase on the Maine lobster fishery will not benefit the fishery in anyway. Present or future. In the 30 mile range I fish I've seen more small lobsters in the past few years than ever before. We need better testing methods in different areas.
Shawn Baumgartner Casco Bay

Caitlin Starks

From: Sheila Dassatt <dassatt711@yahoo.com>
Sent: Friday, April 26, 2024 9:22 AM
To: Comments
Subject: [External] Addendum XXVII Reconsideration

Dear Commissioner,

There is great concern over the implementation of Addendum XXVII, which will have an impact on our fishermen and our dealers. With this being said, we are asking you to take a look at all of the information that is based on the findings of our industry scientists and the fishermen themselves. At this point in time, we, Downeast Lobstermen's Association, are asking you to consider taking a little more time with the implementation of this bill. Please let the science prove itself before drastic measures are taken to change our gauge and vents due to a shortage in the amount of lobsters that are actually there.

We are joining with all of the others that are asking for the same consideration, NEFSA, MLA, MLU and ourselves, DELA, along with many of our lobster dealers in Maine. This can be more devastation for our fishery if the science is inaccurate and the loss and expense for the lobstermen is more hardship. This will also be a big "hit" for our lobster dealers.

Please take all of the implications into consideration and work with us for a little bit longer.

Thank you,
Sheila H. Dassatt
Downeast Lobstermen's Association
Stonington, ME 04681

Caitlin Starks

From: Dirt bikes And wheelers <sheldensimmons123@gmail.com>
Sent: Friday, April 26, 2024 5:27 AM
To: Comments
Subject: [External] Lobstering

We need to not have a measure gauge change Sent from my iPhone

Caitlin Starks

From: taborhorton <taborhorton@gmail.com>
Sent: Friday, April 26, 2024 5:39 AM
To: Comments
Subject: [External] Guage increase

My name is Tabor horton I fish out of south blue hill maine. I believe we need to delay the measure increase. For the last 2 seasons me and the people I fish around have reported seeing more juvenile lobsters then they have seen in a long time. We need more time to research the effects of the measure increase. The lobster industry if facing so many hurdles at this time this will have a negative effect on the industry and put us at a disadvantage.

Caitlin Starks

From: Thena <mountainlyons@sbcglobal.net>
Sent: Friday, April 26, 2024 12:29 PM
To: Comments
Subject: [External] STOP

Stop ruining the Fishing Industry which will affect the economy in order to promote a ridiculous ideology that is false!
-Thena
Sent from my iPhone

Caitlin Starks

From: Thomas McLennan <bugga3119@hotmail.com>
Sent: Friday, April 26, 2024 8:54 AM
To: Comments
Subject: [External] Maine Lobster

LEAVE THE MEASURE HOW IT IS, BEEN WORKING FOR 30 PLUS YEARS WIRH NO PROBLEMS....

Thomas McLennan, spruce head me

Sent from my U.S.Cellular© Smartphone

Caitlin Starks

From: todd elder <toddelder16@gmail.com>
Sent: Friday, April 26, 2024 8:56 AM
To: Comments
Subject: [External] Lobster Gauge change

Good morning,

Please delay this gauge change until a full analysis had been done!

Todd Elder

Caitlin Starks

From: Todd Pinkham <flyby_72@yahoo.com>
Sent: Thursday, April 25, 2024 9:21 PM
To: Comments
Subject: [External] Measure increase

Measure increase is a terrible idea , drop back to 600 traps instead. We are being not so slowly squeezed out of this industry. 600 would reduce endlines ,open up more fishing ground , less bait , less fuel , less time on the water. But that would make too much sense right ?

Sent from my iPhone

Caitlin Starks

From: Comcast <penaltybox2@comcast.net>
Sent: Thursday, April 25, 2024 8:59 PM
To: Comments
Subject: [External] Maine measure increase

Tom Cloutier, Harpswell Lobsterman for nearly 30 years. I am against the measure increase for next year 2025, I feel that it is unnecessary and one more law/ regulation to put lobsterman out of business with so much going on these days. I have seen large numbers of small lobsters in some bays and not in others, most likely caused by new predators, oyster farms and new to the area aquatic foreign plant species. Thanks for reading.
Sent from my iPhone

Caitlin Starks

From: Tom C <tommy.e.coughlin@gmail.com>
Sent: Thursday, April 25, 2024 5:29 PM
To: Comments
Subject: [External] Lobster gauge increase delay

Please delay the lobster gauge increase. The families lives could be deeply impacted. Fishing for 10 plus years the amount of short lobster that are released and female breeders notched and released is huge. I would suggest more study from my first hand experience.

Thanks for your time,

Tom Coughlin
Ellsworth, Maine

Sent from my iPhone

Caitlin Starks

From: Tristan Ciomei <tristanciomei2007@icloud.com>
Sent: Friday, April 26, 2024 8:45 AM
To: Comments
Subject: [External] Gauge increase

My name is Tristan Ciomei I'm a sixteen year old fifth generation lobster fisherman from stonington Maine. I believe that there needs to be further research and analysis done before we determine on a gauge increase. This decision if made without further research and assessments can hurt our industry. I believe that there needs to be a 6 month assessment or more of ventless traps to determine the amount of short lobsters. Lobsters may be there one day and gone the next they move around all the time the temperature changes and the weather can also affect what these lobsters do. It would be impossible to determine the stock of undersized lobsters in any less than that amount of time. There is another ongoing issue I would like to address which is that the Canadian lobster fishery is able to keep lobsters that in Maine would be considered oversized these lobsters are crucial to our industry. Maine has had this law put into place for some time now to protect these high producing lobsters without these lobsters we don't have an industry and I think it needs to be addressed.

Sincerely
Tristan Ciomei

Caitlin Starks

From: Valerie Caron <valcaron3@gmail.com>
Sent: Friday, April 26, 2024 9:07 AM
To: Comments
Subject: [External] Lobster Gauge Implementation

Please delay the gauge change date of January 1, 2025 long enough to conduct a full analysis on the severe market implications expected as a result of the trigger.

Thank you,
Valerie Caron
Sent from Valerie Caron

Caitlin Starks

From: Wesley Penney <fvcurmudgeon@msn.com>
Sent: Monday, May 13, 2024 3:33 PM
To: Comments
Subject: [External] Comment on Addendum XXX

Good day,
I am writing to comment on the proposed minimum size increase to 3 5/16". I fish in the Boston area and have participated for many years in both the sea sampling surveys and ventless trap study with the Massachusetts Division of Marine Fisheries. The increase in minimum size will be devastating to the lobster fishery in my area. I believe statistics from those studies will back up that statement and should be easy to check. I believe the minimum size increase will cause undo economic hardship to the fishery. I believe the studies will also show that the larger lobsters do not stay in the areas I fish.
Thank you for your consideration of my comments.
Regards,
Wesley Penney
(978) 804-5675
fvcurmudgeon@msn.com
Sent from my iPad

Caitlin Starks

From: Whit Chaplin <whit.chaplin.525@gmail.com>
Sent: Thursday, April 25, 2024 3:09 PM
To: Comments
Subject: [External] Gauge Change

Hello, I am a 19 year old lobstermen out of islesford maine. I am writing to express my concern for this upcoming gauge limit being changed in the next two years. I'm just starting out in this business but one thing I've quickly learned is how expensive it is to go fishing, and I worry greatly that this gauge change will destroy our industry as we know it. I know that if we lose the slot of lobsters that is being threatened to be taken away from us, that many young men and women like myself all across maine will be unable to afford to stay in this business and will be forced out, destroying a long standing legacy of this great state. So I hope that you understand this truth when deciding on the new measure change and before you make any rash decisions, you consider the young working population of our state which will drive our economy for the next 50 years.
Thank you for your time

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

MEMORANDUM

TO: **American Lobster Management Board**

FROM: **Caitlin Starks, Senior Fishery Management Plan Coordinator**

DATE: **July 22, 2024**

SUBJECT: **Work Group Report on 24/7 Lobster Vessel Tracking Requirement**

In April, the Atlantic States Marine Fisheries Commission's Lobster Management Board tasked the Lobster Vessel Tracking Work Group (WG) to investigate possible modifications to the 24/7 tracking requirement of Addendum XXIX that would still ensure monitoring of fishing activity, while acknowledging that fishermen also use their boats for personal non-fishing reasons. The WG was also charged with reviewing the existing processes for when Vessel Monitoring Systems (VMS) devices can be turned off, and getting input from the Law Enforcement Committee (LEC). This task is in response to privacy concerns from industry regarding the Addendum XXIX requirement that federally permitted lobster vessels must have a tracking device that collects location data at a rate of one ping per minute at all times. The WG met via webinar to discuss and develop the report, and also consulted with LEC representatives on possible changes to the tracking requirements. This memo describes possible modifications to tracking devices to allow for partial tracking or tracking of fishing trips only, the potential impacts of such changes to data collection and enforcement, and relevant regulations for VMS exemptions.

Possible Modifications to Tracking Devices and Tracking Requirements

The WG discussed several possible changes that could be made to the tracking devices and the requirements of Addendum XXIX to allow trackers to not collect location data in some situations (i.e., personal use trips). It should be noted that any of the options discussed would require an addendum to implement, given Addendum XXIX is prescriptive about the requirement for the device to be on the vessel, powered on, and collecting data at a one-minute ping rate; only specific circumstances qualify a device to be powered down. Each solution is described below along with considerations related to the currently approved tracking devices.

- Use geofencing to identify when a vessel is in its port area and slow down the ping rate to 1/day

  This strategy would require the definition of a "port" area for each vessel using spatial coordinates. If a tracker recognized the vessel as being inside the defined port area, the data collection rate would automatically slow to one ping per 24 hrs. If the vessel were outside the port area, the rate would automatically be adjusted to 1 ping per minute.

  Concerns: There are several issues to consider regarding this strategy. First and foremost, it would not exactly address the privacy concerns raised by industry because a vessel would most likely leave the port area for any trip, fishing or otherwise, and outside the port area tracking would continue at the one-minute rate.

Not all of the currently approved tracking devices are capable of this strategy, and it was not required in the Request for Proposals (RFP) for tracking devices. Viatrax devices, which make up the majority of devices being used in the non-Maine fleet, cannot use geofencing. Additionally, cell service would be required to register whether a vessel is inside or outside its port area and adjust the ping rate, but cell service is not always available in these areas. For devices that are capable of geofencing, it would require an enormous workload to define each of the many port areas that are used by lobster vessels with tracking requirements.

Another issue is that in Maine and Massachusetts, many fishing areas are so close to port that devices would be incapable of distinguishing between port and inshore fishing areas. As a result, vessels lobstering inshore near or in the port areas, which is common in LCMA 1 even on federally permitted vessels, would result in Vessel Trip Reports (VTRs) with no associated spatial data. Such VTRs would be flagged as non-compliant.

- Use geofencing to establish a distance from shore beyond which the ping rate is 1/min

  This strategy is very similar to the previous, except that instead of defining an area near port, a line at a certain distance from shore, 3 miles for example, would be defined. If a vessel were further offshore than this line, then the device would collect data at the one-minute ping rate, and on the inshore side of the line, the device would automatically adjust to a lower ping rate (e.g., 1 per day).

  Concerns: The same issues regarding device capabilities and gaps in cell phone service apply to this strategy as the previous one. One device, Particle, is capable of this, but it would still encounter the issue regarding cell service coverage. The RFP did require devices to have constant cell service to function as intended; they only have to be able collect and store spatial information at all times, and transmit the information when they have cell service. To be completely capable of using this strategy, devices would have to use satellite service; at one-minute ping rate satellite may incur huge costs. No currently approved device can use satellite for data transmission. Adding another device requires significant investment for the company and may not be deemed profitable for a small number of interested vessels.

  Similar to the previous strategy, any vessel that fishes on the inshore side of the line would create VTRs but no spatial tracking data, and those trips would be flagged as non-compliant. In this circumstance, administrators will have to use the location on the VTR to determine if vessels are within state or federal waters. The single location provided on VTRs vessel trip reports is often inaccurate and may not provide valid evidence to confirm if the vessel was in state waters or not.

- Allowing devices to “snooze” for a limited period of time

  This strategy would function by allowing the permit holder to submit an online form to the vendor or state agency, which would trigger a process to set the device to “snooze” for a pre-determined period of time. During this period the device would not collect any spatial data. After the time period ends the device would automatically “wake up” and continue collecting data at the one-minute ping rate.

  Of the currently approved devices, Viatrax and Particle are capable of this function. The Viatrax device would need to undergo changes to add this function:
  - For a fee, new software development would be needed.

- The annual subscription fee paid by industry would increase.
- Changes to the web form would need to be developed to include additional security measures, such as the tracker serial number or a password.

A benefit of this approach is that because a web form would be required to snooze a device, there would be a record of every time snoozing occurs, and that may help mitigate the potential for abuse of the snooze function.

Concerns: This process may require state administration and manual disabling of a device using the vendor interface. Additionally, all approved vendors may not be capable of accomplishing this task. The WG noted that it may be possible to have vendors send a notification to ACCSP to inform them when snooze periods are initiated. Work would be required by ACCSP to integrate this function into the vessel tracking application in order to see when vessels are in snooze mode.

The WG recommends that if this strategy were pursued, vessels should be prohibited from having certain items (e.g., gear, bait, any catch) on the vessel while it is in snooze mode, to aid with enforceability. The WG also noted that the length of snooze periods would need to be considered thoroughly. If devices were allowed to snooze for random short periods throughout the day, it would essentially remove the utility of the tracking rules; the WG believes it would make more sense for snoozing to be used for extended periods like 12 hours or several days. However, input from industry is needed to better understand vessel use patterns for this strategy to address privacy concerns.

Data and Enforcement Impacts

The first two strategies above would inherently result in some loss of vessel tracking data for real lobster trips. As described above, the first two strategies would likely result in the loss of vessel tracks for any trips occurring inshore close to the port area. In Maine, this could be a significant number of trips. The second strategy would result in an even greater loss of spatial data. If the geofencing line were set at three miles from shore, for example, then any lobster effort in state waters would not have associated vessel tracks. Trips may also contain incomplete tracking information if effort occurred within state and federal waters, making the ability to calculate metrics such as gear hauled and catch per unit effort difficult. Spatial data for these trips are important to the intent of Addendum XXIX, for improving the stock assessment, identifying areas where lobster fishing effort may overlap with endangered North Atlantic right whales, and documenting the footprint of the fishery to help reduce spatial conflicts with other ocean uses like wind energy development and aquaculture. Spatial effort data from federally-permitted vessels fishing in state waters do not represent all state-waters fishing, but they do provide states insight on what areas are used by the lobster fishery and should be avoided by other marine uses. Of the three strategies discussed, the snooze approach would most likely result in the least amount of fishing data loss, if used properly. However, if any fishing were to occur while a tracking device was in snooze mode, spatial data for that activity would not be captured.

The LEC noted a number of concerns with approaches for removing the 24/7 tracking requirements. They commented that tracking helps reduce misuse of trap tags, and that not having tracking in state waters would create a loophole in those areas. In general, they commented that permit holders having the ability to shut off their devices would make it more challenging for enforcement to make a case for non-compliance in court. Law Enforcement mostly uses vessel tracking data to make a case against a vessel that is already suspected. If permit holders have the ability to turn off the devices makes it more difficult to prove it when someone is breaking the rules. It is not always possible to determine if a vessel is on a fishing trip by boarding the vessel because vessels do not always have gear on board while they are on a fishing trip. The

LEC agreed that regulations would need to specify that whenever a vessel has traps, bait, or lobster on Board it cannot be classified as a non-fishing trip.

The LEC was concerned that ability to turn off trackers for personal reasons would make it very easy to get around the tracking rules for fishing. Law Enforcement does not have the ability to see if devices are on or off in real time, and when a device is off, it is not possible to determine the reason (whether the device failed or was purposefully turned off). This makes it a challenge to prove a device was turned off on purpose to skirt the rules.

Where there is cell service, law enforcement can get information on vessel locations much more quickly because they are being transmitted to the vendor and ACCSP. Thus, another issue created by trackers being turned off or the ping rate slowed down inshore (where there is more cellular service), is that it would slow down law enforcement's ability to get spatial data on vessels suspected of noncompliance.

Relevant VMS Regulations

The WG reviewed VMS regulations related to turning off VMS devices and exemptions. VMS regulations for Atlantic fisheries require VMS devices to be on and collecting data 24 hours a day, unless authorized to power down. Exemptions are only allowed to power down a device in specific circumstances: 1) when the vessel will be out of the water for >72 hours, 2) when the vessel signs out of the VMS program for 30+ consecutive days and does not move from mooring until VMS is turned back on, 3) if the vessel is issued a Limited Access General Category scallop permit, is not in possession of scallops, is tied to permanent mooring, and has notified NMFS of power down. The regulations also require a letter of authorization (LOA) from NMFS to be issued to the vessel owner. The owner must apply for the LOA via written request and provide information to NMFS including the vessel location.

The WG also noted the following additional information related to VMS. The WG clarified that VMS users can "declare out of the fishery" but that does not mean the VMS device stops collecting tracking data. The WG also notes that VMS devices are capable of geofencing and it is used to change the ping rate when a vessel enters/leaves specific areas. Geofencing is not ever used to automatically turn off a VMS device in certain areas. Lastly, it was noted that the fastest ping rate in for VMS devices is one ping every 5 minutes; the national VMS regulations currently do not allow for a faster ping rate.

Additional Considerations

The WG noted that since vessel tracking has been implemented, it appears that the tracking data have improved data reporting compliance. With the tracking data to use as a reference, there are fewer reporting issues such as incorrect dates, etc.

If the Board were to pursue changing the Addendum XXIX requirements for 24/7 tracking, it could consider giving harvesters the choice to purchase a device or additional service that would allow the vessel to not be tracked within certain areas using geofencing. However, the WG noted that some of the currently approved companies would have to make significant investments to modify devices to use satellite (as opposed to cellular service) at a rate of one ping per minute. Because devices have already been purchased, there may not be a financial incentive to pursue such modifications.