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. It is our intent to begin at the scheduled start time for each meeting, however, if meetings run late the next meeting may start later than originally planned.

Monday, August 3

9:00 – 10:00 a.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: Borden
Other Participants: Sullivan, Blanchard
Staff: Appelman

1. Welcome/Call to Order *(D. Borden)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2020
3. Public Comment
4. Consider Approval of 2020 Fishery Management Plan Review and State Compliance *(M. Appelman)* **Action**
5. Discuss Work Group Report on Issues to be Considered in the Next Management Document *(M. Ware, M. Gary)*
6. Recess (Reconvene August 4 at 3:00 p.m.)

10:00 – 10:30 a.m. **Break**

10:30 – Noon **Atlantic Coastal Cooperative Statistics Program Coordinating Council**

Partners: ASMFC, Connecticut, Delaware, District of Columbia, Florida, Georgia, MAFMC, Maine, Maryland, Massachusetts, NEFMC, New Hampshire, New Jersey, New York, NMFS, North Carolina, Pennsylvania, PRFC, Rhode Island, SAFMC, South Carolina, USFWS, Virginia
Chair: Fegley
Staff: White

1. Welcome/Call to Order *(L. Fegley)*
2. Council Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2020
3. Public Comment
4. Review and Discuss ACCSP Governance Survey Results *(G. White)*
5. Committee and Program Updates *(J. Simpson, G. White)*
6. Status of 2020 Action Plan Items *(G. White)*
7. Other Business/Adjourn

Noon – 1:30 p.m. **Lunch Break**

1:30 – 3:45 p.m. **South Atlantic State/Federal Fisheries Management Board**
Member States: New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Other Members: NMFS, PRFC, SAFMC, USFWS
Chair: Fegley
Other Participants: Franco, Giuliano, Paramore, Rickabaugh, Hodge
Staff: Schmidtke

1. Welcome/Call to Order *(L. Fegley)*
2. Board Consent
   - Approval of Agenda
   - Approval of Meeting Summary from February 2020
3. Public Comment
4. Consider Draft Addendum l to Amendment 1 to the Cobia Interstate Fishery Management Plan for Public Comment *(M. Schmidtke)* **Action**
5. Consider Approval of Atlantic Cobia Commercial Trigger Level *(A. Giuliano)* **Action**
6. Discuss Timeline for Submitting Atlantic Cobia Amendment 1 Implementation Plans *(M. Schmidtke)*
7. Review Terms of Reference for Red Drum Simulation Assessment *(J. Kipp)* **Action**
8. Elect Vice-Chair *(L. Fegley)* **Action**
9. Other Business/Adjourn

Tuesday, August 4

8:30 a.m. – Noon **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,
15 minute break included
Other Members: DC, NMFS, PRFC, USFWS
Other Participants: Sprankle, Furlong, Lyons Gromen, Bailey, Limburg
Chair: Armstrong
Staff: Starks

1. Welcome/Call to Order *(M. Armstrong)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from October 2019
3. Public Comment
4. Consider 2020 Shad Benchmark Stock Assessment **Action**
   - Presentation of Stock Assessment Report *(M. Bailey)*
   - Presentation of Peer Review Panel Report *(K. Limburg)*
   - Consider Acceptance of Benchmark Stock Assessment and Peer Review Report for Management Use *(M. Armstrong)*
   - Consider Management Response to the Assessment and Peer Review *(M. Armstrong)*

5. Consider State Proposals to Resolve Inconsistencies with Amendments 2 and 3 **Final Action**
   - Presentation of State Proposals and Technical Committee Recommendations *(K. Sprankle)*
   - Presentation of Advisory Panel Comments on State Proposals and Technical Committee Recommendations *(P. Lyons Gromen)*
   - Consider Approval of State Proposals
6. Update on River Herring Technical Expert Work Group Activities *(C. Starks)*
7. Update on Timeline for Shad Habitat Plan Updates *(C. Starks)*
8. Elect Vice-Chair *(M. Armstrong)* **Action**
9. Other Business/Adjourn

Noon – 1:30 p.m. **Lunch Break**

1:30 – 2:30 p.m. **Atlantic Menhaden Management Board**
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Other Members: NMFS, PRFC, USFWS
Chair: Woodward
Other Participants: Flora, Kersey
Staff: Rootes-Murdy

1. Welcome/Call to Order *(S. Woodward)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2020
3. Public Comment
4. Review Ecological Reference Point Work Group Analysis *(M. Cieri)*
5. Consider Postponed Motion from February 2020 *(S. Woodward)* **Final Action**
   Move to Adopt:
   An Atlantic menhaden ecological reference point F target equal to the maximum F on Atlantic menhaden that maintains Atlantic striped bass at its biomass target when striped bass is fished at its F target and all other ERP species as defined in the NWACS-MICE model are fished at their status quo F rates.

   An Atlantic menhaden ecological reference point F threshold equal to the maximum F on Atlantic menhaden that maintains Atlantic striped bass at its biomass threshold when striped bass is fished at its F target and other ERP species as defined in the NWACS-MICE model are fished at their status quo F rates.
6. Recess (Reconvene August 5 at 2:45 p.m.)

2:30 – 3:00 p.m. **Break**

3:00 – 4:30 p.m. **Atlantic Striped Bass Management Board (continued)**

7. Reconvene
8. Consider Postponed Motions from April 2019 *(D. Borden)* **Action**
   Main Motion: Move to initiate an Amendment to the Atlantic Striped Bass Fishery Management Plan to address the needed consideration for change on the issues of fishery goals and objectives, empirical/biological/spatial reference points, management triggers, rebuilding biomass, and area-specific management. Work on this Amendment will begin upon the completion of the previously discussed addendum to the management plan.

   Motion to Amend: Move to amend to add reallocation of commercial quota between states.
8. Consider Postponed Motion from February 2020 *(D. Borden)* **Action**
   Move to task the Plan Review Team to review state reductions in the Fishery Management Plan Review of the 2020 fishing year. If a state is below their predicted target reduction, the Board may direct a state to modify measures for the following fishing year to achieve the target reduction.
9. Elect Vice-Chair *(D. Borden)* **Action**
10. Other Business/Adjourn

<u>Wednesday, August 5</u>

8:00 – 10:00 a.m. **Executive Committee**
Members: Abbott, Anderson, Bowman, Bell, Cimino, Clark, Davis, Estes, Gilmore, Keliher, Kuhn, McKiernan, McNamee, Miller, Murphey, Patterson, Woodward
Chair: Keliher
Other Participants: Knowlton
Staff: Leach

1. Welcome/Call to Order *(P. Keliher)*
2. Committee Consent
   - Approval of Agenda
   - Approval of Meeting Summary from February 2020
3. Public Comment
4. Administrative Oversight Committee Report *(S. Woodward)* **Action**
   - Consider FY21 Budget
   - Consider Policy on Commission Contracts *(L. Leach)*
5. U.S. Coronavirus Aid, Relief, and Economic Security (CARES) Act Update *(R. Beal)*
6. Consider Management and Science Committee Recommendations Regarding Improvements to Advisory Panel and Public Input Process *(K. Knowlton/S. Murray)* **Action**
7. Update on Pennsylvania's Participation on the Atlantic Menhaden Management Board *(R. Beal)*
8. Consider Dividing the South Atlantic State/Federal Management Board into Two Management Boards *(R. Beal)*
9. Discuss Executive Director's Annual Performance Review **(CLOSED SESSION)**
10. Other Business/Adjourn

10:00 – 10:30 a.m. **Break**

10:30 a.m. – 12:15 p.m. **Interstate Fisheries Management Program Policy Board**

Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Other Members: DC, NMFS, PRFC, USFWS
Chair: Keliher
Staff: Kerns

1. Welcome/Call to Order *(P. Keliher)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from February and July 2020
3. Public Comment
4. Executive Committee Report *(P. Keliher)* **Possible Action**
5. Progress Update on the Risk and Uncertainty Policy *(J. McNamee)*
6. Committee Reports
   - Assessment Science Committee *(S. Murray)* **Action**
   - Habitat Committee *(L. Havel)*
   - Atlantic Coastal Fish Habitat Partnership *(L. Havel)*
7. Review Noncompliance Findings (if necessary) **Action**
8. Other Business/Adjourn

12:15 – 1:15 p.m. **Lunch Break**

1:15 – 2:30 p.m. **Atlantic Herring Management Board**

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

1. Welcome/Call to Order *(C. Patterson)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2020
3. Public Comment
4. Review the 2020 Atlantic Herring Management Track Assessment and Peer Review Reports *(J. Deroba)*
5. Progress Update on 2020 Area 1A Fishery *(R. Zobel)*
6. Elect Vice-Chair *(C. Patterson)* **Action**
7. Other Business/Adjourn

2:45 – 4:15 p.m. **Atlantic Menhaden Management Board (continued)**

7. Reconvene
8. Consider Postponed Motions from February 2020, *continued*
9. Discuss Timeline and Tasking to Set the 2021-2022 Fishery Specifications *(C. Flora)*
10. Elect Vice-Chair *(S. Woodward)* **Action**
11. Other Business/Adjourn

4:30 – 4:45 p.m. **Business Session**

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

1. Welcome/Call to Order *(P. Keliher)*
2. Committee Consent
   - Approval of Agenda
   - Approval of Proceedings from February 2020
3. Public Comment
4. Consider Noncompliance Findings (if necessary) **Final Action**
5. Other Business/Adjourn

Thursday August 6

8:30 – 11:00 a.m. **ASMFC Bluefish Management Board and Mid-Atlantic Fishery Management Council (MAFMC)**

Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Other Members: NMFS, PRFC, USFWS
ASMFC Chair: Batsavage
MAFMC Chair: Luisi
Other Participants: Celestino, Kersey
Staff: Colson Leaning, Seeley

1. Welcome/Call to Order *(C. Batsavage/M. Luisi)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2020
3. Public Comment
4. Review Plan Development Team/Fishery Management Action Team (PDT/FMAT) Discussion Document on Bluefish Allocation and Rebuilding Draft Amendment *(D. Colson Leaning, M. Seeley)*
5. Provide Guidance to PDT/FMAT on Bluefish Allocation and Rebuilding Draft Amendment *(C. Batsavage, M. Luisi)*
6. Consider Approval of Fishery Management Plan Review and State Compliance *(D. Colson Leaning)* **Action**
7. Other Business/Adjourn

11:00 – 11:15 a.m. **Break**

11:15 a.m. – 12:15 p.m. **ASMFC Summer Flounder, Scup, and Black Sea Bass Management Board and MAFMC**
Member States: Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina
Other Members: NMFS, PRFC, USFWS
ASMFC Chair: Nowalsky
MAFMC Chair: Luisi
Other Participants: Wojcik, Snellbaker
Staff: Colson Leaning, Starks, Beaty, Coutre, Dancy

1. Welcome/Call to Order *(A. Nowalsky/M. Luisi)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from May 2020
3. Public Comment
4. Consider Draft Addendum XXXIII for Public Comment *(C. Starks)* **Action**
   - Black Sea Bass Commercial Allocation
5. Recess

12:15 – 1:15 p.m. **Lunch Break**

1:15 – 3:45 p.m. **ASMFC Summer Flounder, Scup, and Black Sea Bass Management Board and MAFMC (continued)**

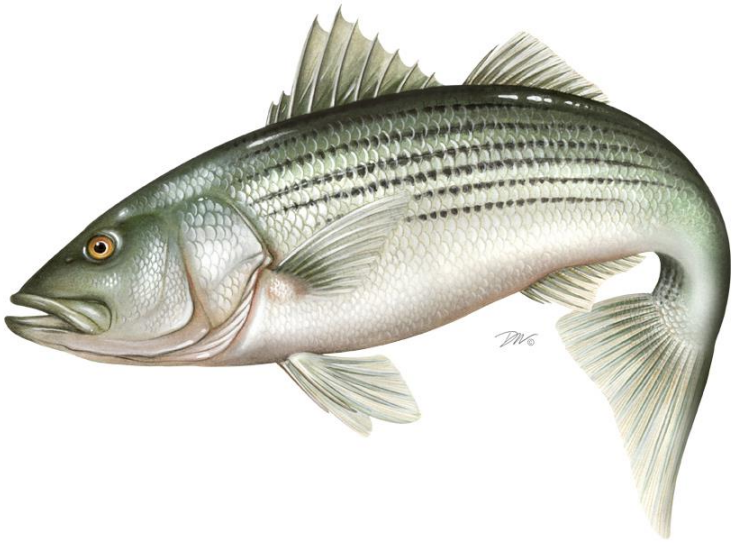
6. Reconvene
7. Consider Draft Addendum XXXIII for Public Comment, *continued*
   - Black Sea Bass Commercial Allocation
8. Update on Recreational Reform Initiative *(J. Beaty)* **Possible Action**
9. Review and Consider Approval of Massachusetts 2020 Black Sea Bass Recreational Conservation Equivalency Proposal *(N. Meserve)* **Final Action**
   - Summary of Technical Committee, Advisory Panel, and Law Enforcement Committee Comments *(C. Stark)*
10. Other Business/Adjourn

ATLANTIC STATES MARINE FISHERIES COMMISSION

DRAFT REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN

FOR ATLANTIC STRIPED BASS
(Morone saxatilis)

2019 FISHING YEAR



Prepared by the Plan Review Team

Drafted July 2020

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

DRAFT REVIEW OF THE ASMFC FISHERY MANAGEMENT PLAN AND STATE COMPLIANCE FOR ATLANTIC STRIPED BASS *(Morone saxatilis)* FOR THE 2019 FISHERY

Management Summary

Date of FMP Approval:	Original FMP – 1981
Amendments:	Amendment 1 – 1984 Amendment 2 – 1984 Amendment 3 – 1985 Amendment 4 – 1989; Addendum I – 1991, Addendum II – 1992, Addendum III – 1993, Addendum IV – 1994 Amendment 5 – 1995; Addendum I – 1997, Addendum II – 1997, Addendum III – 1998, Addendum IV – 1999, Addendum V – 2000 Amendment 6 – 2003; Addendum I – 2007, Addendum II – 2010, Addendum III – 2012, Addendum IV – 2014, Addendum VI -2019
Management Unit:	Migratory stocks of Atlantic striped bass from Maine through North Carolina
States With Declared Interest:	Maine - North Carolina, including Pennsylvania
Additional Jurisdictions:	District of Columbia, Potomac River Fisheries Commission, National Marine Fisheries Service, United States Fish and Wildlife Service
Active Boards/Committees:	Atlantic Striped Bass Management Board, Advisory Panel, Technical Committee, Stock Assessment Subcommittee, Tagging Subcommittee, Plan Review Team, and Plan Development Team

The Atlantic States Marine Fisheries Commission (Commission) developed a Fisheries Management Plan (FMP) for Atlantic Striped Bass in 1981 in response to poor juvenile recruitment and declining landings. The FMP recommended increased restrictions on commercial and recreational fisheries, such as minimum size limits and harvest closures on spawning grounds. Two amendments were passed in 1984 recommending additional management measures to reduce fishing mortality. To strengthen the management response and improve compliance and enforcement, the Atlantic Striped Bass Conservation Act (P.L. 98-613) was passed in late 1984. The Striped Bass Act[1] mandated the implementation of striped bass regulations passed by the Commission and gave the Commission authority to recommend to the Secretaries of Commerce and Interior that states be found out of compliance when they failed to implement management measures consistent with the FMP.

[1] The 1997 reauthorization of the Striped Bass Act also required the Secretaries of Commerce and Interior provide a biennial report to Congress highlighting the progress and findings of studies of migratory and estuarine Striped Bass. The ninth such report was recently provided to Congress (Shepherd et al. 2017).

The first enforceable plan under the Striped Bass Act, Amendment 3, was approved in 1985, and required size regulations to protect the 1982 year class – the first modest size cohort since the previous decade. The objective was to increase size limits to allow at least 95% of the females in the 1982 year class to spawn at least once. Smaller size limits were permitted in producer areas than along the coast. Several states, beginning with Maryland in 1985, opted for a more conservative approach and imposed a total moratorium on striped bass landings for several years. The amendment contained a trigger mechanism to relax regulations when the 3-year moving average of the Maryland juvenile abundance index (JAI) exceeded an arithmetic mean of 8.0 – which was attained with the recruitment of the 1989 year class. Also, in 1985, the Commission determined the Albemarle Sound-Roanoke River (A-R) stock in North Carolina contributed minimally to the coastal migratory population, and was therefore allowed to operate under an alternative management program.

Amendment 4, implemented in 1989, aimed to rebuild the resource rather than maximize yield. The amendment allowed state fisheries to reopen under a target fishing morality (F) of 0.25, which was half the estimated F needed to achieve maximum sustainable yield (MSY). The amendment allowed an increase in the target F once spawning stock biomass (SSB) was restored to levels estimated during the late 1960s and early 1970s. The dual size limit concept was maintained (coastal versus producer areas), and a recreational trip limit and commercial season was implemented to reduce the harvest to 20% of that in the historic period of 1972-1979. A series of four addenda were implemented from 1990-1994 to maintain protection of the 1982 year class.

In 1990, to provide additional protection to striped bass and ensure the effectiveness of state regulations, NOAA Fisheries passed a final rule (55 Federal Register 40181-02) prohibiting possession, fishing (catch and release fishing), harvest, and retention of Atlantic striped bass in the Exclusive Economic Zone (EEZ), with the exception of a defined transit zone within Block Island Sound. Atlantic striped bass may be transported through this defined area provided that the vessel is not used to fish while in the EEZ and the vessel remains in continuous transit, and that the fish were legally caught in adjoining state waters.

In 1995, the Atlantic striped bass migratory stock was declared recovered by the Commission (the A/R stock was declared recovered in 1997) and Amendment 5 was adopted to increase the target F to 0.33, midway between the existing F target (0.25) and F_{MSY}. Target F was allowed to increase again to 0.40 after two years of implementation. Regulations were developed to achieve the target F (which included measures to restore commercial harvest to 70% of the average landings during the 1972-1979 historical period) and states were allowed to submit proposals to implement alternative regulations that were deemed conservationally equivalent to the Amendment 5 measures. From 1997-2000, a series of five addenda were implemented to respond to the latest stock status information and adjust the regulatory program to achieve each change in target F.

In 2003, Amendment 6 was adopted to address five limitations within the existing management program: 1) potential inability to prevent the Amendment 5 exploitation target from being exceeded; 2) perceived decrease in availability or abundance of large striped bass in the coastal migratory population; 3) a lack of management direction with respect to target and threshold biomass levels; 4) inequitable effects of regulations on the recreational and commercial fisheries, and coastal and

producer area sectors; and 5) excessively frequent changes to the management program. Accordingly, Amendment 6 completely replaced the existing FMP for Atlantic striped bass.[2]

The goal of Amendment 6 is "to perpetuate, through cooperative interstate management, migratory stocks of striped bass; to allow commercial and recreational fisheries consistent with the long-term maintenance of a broad age structure, a self-sustaining spawning stock; and also to provide for the restoration and maintenance of their essential habitat." In support of this goal, the following objectives are included:

1. Manage striped bass fisheries under a control rule designed to maintain stock size at or above the target female spawning stock biomass level and a level of fishing mortality at or below the target exploitation rate.
2. Manage fishing mortality to maintain an age structure that provides adequate spawning potential to sustain long-term abundance of striped bass populations.
3. Provide a management plan that strives, to the extent practical, to maintain coastwide consistency of implemented measures, while allowing the States defined flexibility to implement alternative strategies that accomplish the objectives of the FMP.
4. Foster quality and economically viable recreational, for-hire, and commercial fisheries.
5. Maximize cost effectiveness of current information gathering and prioritize state obligations in order to minimize costs of monitoring and management.
6. Adopt a long-term management regime that minimizes or eliminates the need to make annual changes or modifications to management measures.
7. Establish a fishing mortality target that will result in a net increase in the abundance (pounds) of age 15 and older striped bass in the population, relative to the 2000 estimate.

Amendment 6 modified the F target and threshold, and introduced a new set of biological reference points (BRPs) based on female SSB, as well as a list of management triggers based on the BRPs. The coastal commercial quotas were restored to 100% of the states' average landings during the 1972-1979 historical period, except for Delaware's coastal commercial quota which remained at the level allocated in 2002[3]. In the recreational fisheries, all states were required to implement a two-fish bag limit with a minimum size limit of 28 inches, except for the Chesapeake Bay fisheries, North Carolina fisheries that operate in the A/R, and states with approved alternative regulations. The Chesapeake Bay and A/R regulatory programs were predicated on a more conservative F target than the coastal migratory stock, which allowed these states/jurisdictions (hereafter states) to implement separate seasons, harvest caps, and size and bag limits as long as they remain under that F target. No minimum

[2] While NOAA Fisheries continues to implement a complete ban on the fishing and harvest of striped bass in the EEZ, Amendment 6 includes a recommendation to consider reopening the EEZ to striped bass fisheries. In September 2006, NOAA Fisheries concluded that it would be imprudent to open the EEZ to striped bass fishing because it could not be certain that opening the EEZ would not lead to increased effort and an overfishing scenario.

[3] The decision to hold Delaware's commercial quota at the 2002 level is based on tagging information that indicated F on the Delaware River/Bay stock is too high, and uncertainty regarding the status of the spawning stock for the Delaware River/Bay.

size limit can be less than 18 inches under Amendment 6. The same minimum size standards regulate the commercial fisheries as the recreational fisheries, except for a minimum 20 inch size limit in the Delaware Bay spring American shad gillnet fishery.

States are permitted the flexibility to deviate from these regulations by submitting conservation equivalency proposals to the Plan Review Team (PRT). All proposals are subject to technical review and approval by the Atlantic Striped Bass Management (Board). It is the responsibility of the state to demonstrate through quantitative analysis that the proposed management program is equivalent to the standards in the FMP, or will not contribute to the overfishing of the resource.

Five addenda to Amendment 6 have been implemented. Addendum I, approved in 2007, established a bycatch monitoring and research program to increase the accuracy of data on striped bass discards and recommended development of a web-based angler education program. Also in 2007, President George W. Bush issued an Executive Order (E.O. 13449) prohibiting the sale of striped bass (and red drum) caught within the EEZ. Addendum II was approved in 2010 and established a new definition of recruitment failure such that each index would have a fixed threshold rather than a threshold that changes annually with the addition of each year's data. Addendum III was approved in 2012 and requires all states with a commercial fishery for striped bass to implement a uniform commercial harvest tagging program. The Addendum was initiated in response to significant poaching events in the Chesapeake Bay and aims to limit illegal harvest of striped bass.

Addendum IV was triggered in response to the 2013 benchmark assessment, which indicated a steady decline in SSB since the mid-2000s. The Addendum established new F reference points, and changed commercial and recreational measures to reduce F to a level at or below the new target. Chesapeake Bay fisheries were required to implement lower reductions than coastal states (20.5% compared to 25%) since their fisheries were reduced by 14% in 2013 based on their management program. The addendum maintained the flexibility to implement alternative regulations through the conservation equivalency process. This practice has resulted in a variety of regulations among states (Table 1 and Table 2). All states promulgated regulations prior to the start of their 2015 seasons.

Addendum VI was initiated in response to the 2018 benchmark assessment which indicates the stock is overfished and experiencing overfishing[4]. Approved in October 2019, the Addendum aims to reduce total removals by 18% relative to 2017 levels in order to achieve F target in 2020. Specifically, the Addendum reduces all state commercial quotas by 18%, and implements a 1 fish bag limit and a 28"to less than 35" slot limit for ocean fisheries and a 1 fish bag limit and an 18" minimum size limit in Chesapeake Bay to reduce total recreational removals by 18% in both regions. The Addendum's

[4] In February 2017, the Board initiated development of Draft Addendum V to consider liberalizing coastwide commercial and recreational regulations. The Board's action responded to concerns raised by Chesapeake Bay jurisdictions regarding continued economic hardship endured by its stakeholders since the implementation of Addendum IV and information from the 2016 stock assessment update indicating that F was below target in 2015, and that total removals could increase by 10% to achieve the target F. However, the Board chose to not advance the draft addendum for public comment largely due to harvest estimates having increased in 2016 without changing regulations. Instead, the Board decided to wait until it reviews the results of the 2018 benchmark stock assessment before considering making changes to the management program.

measures are designed to apply the needed reductions proportionally to both the commercial and recreational sectors, although states were permitted to submit alternative regulations through conservation equivalency that achieve an 18% reduction in total removals statewide. The Board reviewed and approved management options for 2020 on a state-by-state basis in February, and all states promulgated regulations by April 1.

Addendum VI also requires the mandatory use of circle hooks when fishing with bait to reduce release mortality in recreational striped bass fisheries. States are encouraged to promote the use of circle hooks through various public outreach and education platforms to garner support and compliance with this important conservation measure. States must submit implementation plans for circle hook requirements by August 15th for review by the Board in October, and promulgate regulations by January 1, 2021.

Pending Action

In April 2019, following review of the 2018 benchmark assessment and after initiating Draft Addendum VI, the Board postponed a motion that considers initiating an amendment to revisit and address a suite of management issues including fishery goals and objectives, reference points, management triggers, stock rebuilding, area-specific management, and commercial allocation. Following final action on Addendum VI in February, the Board postponed a second motion that considers accountability measures for states that don't hit their projected reductions in 2020. Alongside these motions, the Board had also expressed its intent to revisit the management program's conservation equivalency provision and to pursue accountability measures for recreational striped bass fisheries in the future. The Board was to consider both postponed motions at the May 2020 meeting. However, due to impacts from COVID-19, the decision was made for this meeting to be informational only and action was deferred to the August meeting.

In the interim, the Board decided to form a Work Group (WG) of Board members to further discuss these and any other issues that should be considered in a future management document. The intent of the WG is to allow work to continue on these important issues to the extent practical during these challenging times. The WG will report back to the Board in August.

II. Status of the Stocks

The 2018 benchmark stock assessment for Atlantic striped bass was peer-reviewed at the 66th Northeast Regional Stock Assessment Workshop (SAW)/Stock Assessment Review Committee (SARC) meeting in November 2018. The assessment addressed several of the recommendations from the 57th SAW/SARC, including developing new maturity-at-age estimates for the coastal migratory stock and evaluating stock status definitions relative to uncertainty in biological reference points (NEFSC 2018a). The assessment also made progress on developing a spatially and temporally explicit catch-at-age model incorporating tag-based movement (migration) information. Although the Peer Review Panel did not accept the migration model for management use, it recommended continued work to improve the model for future assessments.

The accepted model is a forward projecting statistical catch-at-age (SCA) model which uses catch-at-age data and fishery-dependent and -independent survey indices to estimate annual population size and fishing mortality (NEFSC 2018b). Indices of abundance track relative changes in the population over time while catch data provide information on the scale of the population size. Age structure data (numbers of fish by age) provide additional information on recruitment (number of age-1 fish entering the population) and trends in mortality.

The biological reference points (BRPs) currently used for management are based on the 1995 estimate of female spawning stock biomass (SSB). The 1995 estimate of female SSB is used as the SSB threshold because many stock characteristics (such as an expanded age structure) were reached by this year and the stock was declared recovered. The SSB target is equal to 125% of SSB threshold. To estimate the associated fishing mortality (F) threshold and target, population projections were made by using a constant F and changing the value until the SSB threshold or target was achieved. For the 2018 benchmark, the BRP values have been updated. The benchmark incorporates the newly calibrated recreational catch estimates based on the Marine Recreational Information Program's (MRIP) Fishing Effort Survey (FES), resulting in higher estimates of SSB and therefore higher estimates for the SSB threshold and target (refer to *Section III* for more information). The SSB threshold is estimated at 91,436 metric tons (202 million pounds), with an SSB target of 114,295 metric tons (252 million pounds). The new MRIP estimates did not have a large effect on the estimates of fishing mortality, and the updated F threshold and target values are very similar to the previous F reference points. The F threshold is estimated at 0.24, and the target is estimated at 0.20

Based on the results of the 2018 benchmark, Atlantic striped bass is overfished and experiencing overfishing. In 2017, female SSB was estimated at 68,476 metric tons (151 million pounds) which is below the SSB threshold (Figure 1). Female SSB declined steadily since the time series high in 2003 and has been below threshold since 2013. The recent decline in female SSB appears to be attributed to a period of low recruitment since about 2005 (Figure 1). However, the 2011, 2014, and 2015 year classes (representing the 2012, 2015, and 2016 age-1 recruitment estimates) were above average. Total F was estimated at or above F threshold in 13 of the last 15 years, and was estimated above threshold in 2017 at 0.31 (Figure 2).

III. Status of the Fishery in the Ocean and Chesapeake Bay

In 2019, total Atlantic striped bass removals (commercial and recreational, including harvest, commercial discards and recreational release mortality) was estimated at 5.47 million fish, which is a 5% decrease relative to 2018 (Table 3; Figure 5). The recreational sector accounted for 87% of total removals by number. It should be noted that the recreational catch estimates reported here reflect the new, improved MRIP mail-based survey and are not directly comparable to FMP Review reports published prior to 2019.

The commercial fishery harvested 4.20 million pounds (650,511 fish) in 2019, which is a 12% decrease by weight relative to 2018 (4% increase by number) and may be attributed to poor fishery conditions as reported by fishermen in the ocean region (e.g., high catch of fish outside the legal size limits) (Table 4; Table 5). Harvest from Chesapeake Bay accounted for 66% of the total by weight; Maryland landed

37%, Virginia landed 25%, and Massachusetts landed 14% (Table 5; Figure 6). Additional harvest came from New York (9%), PRFC (8%), Rhode Island (3%), and Delaware (3%). The proportion of commercial harvest coming from Chesapeake Bay is much higher in numbers of fish; roughly 87% in 2019 (Table 6). This is because fish harvested in Chesapeake Bay have a lower average weight than fish harvested in ocean fisheries. Commercial dead discards were estimated at 78,990 fish[5], which accounts for <2% of total removals in 2019 (Table 6).

Total recreational catch (harvest and live releases) was estimated at 30.9 million fish in 2019, which is an 8% decrease from 2018 (Table 7). Total recreational harvest (A+B1) in 2019 is estimated at 2.15 million fish (23.6 million pounds), and represents a 4% decrease relative to 2018 (<1% decrease by weight) (Table 8; Table 9). Maryland landed the largest proportion of recreational harvest in number of fish[6] (36%), followed by New York (23%), New Jersey (19%), Massachusetts (9%), and Rhode Island (5%) (Table 9). The proportion of recreational harvest in numbers from Chesapeake Bay was estimated at 38% in 2019, compared to 47% in 2018.

The vast majority of recreational striped bass catch is released alive either due to angler preference or regulation (i.e., undersized or already caught the bag limit) (Figure 7). The assessment assumes, based on previous studies, that 9% of fish that are released alive die as a result of being caught. In 2019, recreational anglers caught and released an estimated 28.8 million fish, of which 2.60 million are assumed to have died (Table 7). This represents an 8% decrease relative to 2018.

The PRT discussed that although recreational catch and harvest decreased at the coastwide level, the ocean and Chesapeake Bay regions experienced very different fishery conditions in 2019. The ocean region saw a 12% increase in harvest in numbers of fish, while the Bay experienced a 23% decrease compared to 2018 (Table 7). According to MRIP, the overall number of trips directed at striped bass (primary and secondary target) were similar from 2018 to 2019 (<1% decrease) on a coastwide scale. However, the Chesapeake Bay fishery experienced a 26% decrease (~683,000 fewer trips) in targeted trips in 2019. This suggests more favorable fishery conditions in the ocean compared to the Chesapeake Bay in 2019, and could reflect increased availability of fish from the strong 2014 and 2015 year classes to the ocean fishery.

IV. Albemarle Sound and Roanoke River Management Area

Fishery Management Plan

While striped bass in North Carolina's ocean waters are managed under the Interstate FMP, Addendum IV to Amendment 6 formally defers management of the A/R stock to the state of North Carolina using A/R stock-specific BRPs approved by the Board (NCDMF 2013, 2014).

[5] Commercial dead discard estimates are derived via a generalized additive model (GAM), and are therefore re-estimated for the entire time series when a new year of data is added

[6] By weight, New York had the largest proportion of harvest (30%), followed by New Jersey (28%), Maryland (13%), Massachusetts (11%), and Rhode Island (10%) (Table 8).

Estuarine striped bass in North Carolina are currently managed under Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan (FMP) and its subsequent revision and recent supplement (NCDMF 2013, 2014, 2019). It is a joint plan between the North Carolina Marine Fisheries Commission (NCMFC) and the North Carolina Wildlife Resources Commission (NCWRC). Amendment 1, adopted in 2013, lays out separate management strategies for the Albemarle Sound-Roanoke River (A-R) stock and the estuarine (non-migratory) Central and Southern striped bass stocks in the Tar-Pamlico, Neuse, and Cape Fear rivers. Management programs in Amendment 1 utilize annual total allowable landings (TAL), daily possession limits, open and closed harvest seasons, gill net mesh size and yardage restrictions, seasonal attendance requirements, barbless hook requirements in some areas, minimum size limits, and slot limits to maintain a sustainable harvest and reduce regulatory discard mortality in all sectors. Amendment 1 also maintains the stocking regime in the central and southern systems and the harvest moratorium on striped bass in the Cape Fear River and its tributaries (NCDMF 2013). Striped bass fisheries in the Atlantic Ocean of North Carolina are managed under ASMFC's Amendment 6 and subsequent addenda to the Interstate FMP for Atlantic Striped Bass. Amendment 6 also requires North Carolina to inform the Commission of changes to striped bass management in the A-R System.

Albemarle Sound-Roanoke River Striped Bass Stocks

The most recent A/R benchmark stock-specific assessment utilized the ASAP3 statistical catch-at-age model. The model was peer reviewed by an outside panel of experts and approved for management use by the Board in October 2014. The benchmark assessment produced new BRPs and annual harvest quota to prevent overfishing. The model was most recently updated in 2016 with catch and index data through 2014 (Flowers and Godwin 2016). Based on results of the 2016 update, and in comparison to the BRPs below, A-R striped bass are not overfished and are not experiencing overfishing.

	F	***Female SSB***	***Total Allowable Landings (TAL)***
Threshold	0.41	785,150 lbs.	275,000 lb (split evenly between recreational and commercial sectors)
Target	0.33	969,496 lbs.	

In 2014, female SSB was estimated at 2,024,583 pounds which is above the peak in 2003 and the highest value in the time series (Figure 3). In 2014, F was estimated at 0.06 which is below both the F threshold and target (Figure 4). Caution should be used, however, when evaluating the estimates of SSB and F in the terminal year. The estimated SSB value in 2014 is likely an overestimate based on past years of retrospective bias exhibited by the model. Subsequent assessments, incorporating additional years of data, and possibly a revised stock-recruit relationship, will likely reduce the magnitude of the 2014 value (Flowers and Godwin 2016). A/R striped bass experienced a period of unusually strong recruitment (number of age-1 fish entering the population) from 1994-2001 followed by a period of lower recruitment from 2002-2014 (Figure 3).

Overall, the trends in the A-R stock abundance are similar to the Atlantic striped bass stock described above, with a steady decline in female SSB since about 2003. Total stock abundance reached its peak in the early 2000s, declined gradually through about 2009, and then increasing slightly beginning in 2011 through the terminal year. A new benchmark assessment for the A-R stock, which included data through 2017, was peer reviewed by a panel of independent experts via webinar in June, 2020. However, the final assessment and peer-review reports were not available at the time of the report.

Albemarle Sound and Roanoke River Atlantic Striped Bass Fisheries

In 2019, total commercial and recreational harvest in the Albemarle Sound Management Area (ASMA) and the Roanoke River Management Area (RRMA) was 226,886 pounds (59,992 fish). Commercial harvest in the ASMA was 137,156 pounds (33,137 fish). Recreational harvest in the ASMA was 36,351 pounds (10,723 fish), and recreational harvest in the RRMA was 53,379 pounds (16,582 fish).

V. Status of Research and Monitoring

Amendment 6 and its Addenda I-IV set the regulatory and monitoring measures for the coastwide striped bass fishery in 2019. Amendment 6 requires certain states to implement fishery-dependent monitoring programs for striped bass. All states with commercial fisheries or substantial recreational fisheries are required to define the catch and effort composition of these fisheries. Additionally, all states with a commercial fishery must implement a commercial harvest tagging program pursuant to Addendum III to Amendment 6.

Amendment 6 also requires certain states to monitor the striped bass population independent of the fisheries. Juvenile abundance surveys are required from Maine (Kennebec River), New York (Hudson River), New Jersey (Delaware River), Maryland (Chesapeake Bay tributaries), Virginia (Chesapeake Bay tributaries), and North Carolina (Albemarle Sound). Spawning stock sampling is mandatory for New York (Hudson River), Pennsylvania (Delaware River), Delaware (Delaware River), Maryland (Upper Chesapeake Bay and Potomac River), Virginia (Rappahannock River and James River), and North Carolina (Albemarle Sound-Roanoke River). Amendment 6 requires NOAA Fisheries, USFWS, Massachusetts, New York, New Jersey, Maryland, Virginia, and North Carolina to continue their tagging programs, which provide data used to determine survivorship and migration patterns.

VI. Status of Management Measures and Issues

Coastal Commercial Quota

In 2019, the ocean commercial quota was 2,810,275 pounds and was not exceeded. Table 10 contains state-specific quotas and harvest that occurred in 2019, and final 2020 quotas per Addendum VI and approved conservation equivalency programs.

Chesapeake Bay Commercial Quota

In 2019, the Chesapeake Bay-wide quota was 3,120,247 pounds and was allocated to Maryland, the PRFC, and Virginia based on historical harvest. In 2019, the Bay-wide quota was not exceeded, however, Maryland exceeded its allocation by 3,274 pounds[7] which is deducted from its 2020 quota. Table 10 contains jurisdiction-specific quotas and harvest that occurred in 2019 for Chesapeake Bay, and final 2020 quotas. In 2019, commercial harvest from Chesapeake Bay accounted for 66% of total commercial landings by weight, and averaged 61% annually under Addendum IV (2015-2019).

[7] MD indicated that due to COVID-19, an internal audit of 2019 commercial landings has not been completed, therefore, landings are considered preliminary. Any changes to the final estimate will be reported to ASMFC, and Maryland will adjust the 2020 quota accordingly.

Chesapeake Bay Spring Harvest of Migrant Striped Bass

Historically, recreational fishermen in Chesapeake Bay are permitted to take adult migrant fish during a limited seasonal fishery, commonly referred to as the Spring Trophy Fishery. From 1993 to 2007 the fishery operated under a quota. Beginning in 2008, the Board approved non-quota management until stock assessment indicates that corrective action is necessary to reduce F on the coastal stock. The Spring Trophy Fishery is currently managed via bag limits and minimum sizes (see *Appendix 1* for state specific measures). The Commonwealth of Virginia closed the spring trophy season beginning in 2019.

The 2019 estimate of migrant fish harvested during the Maryland trophy season was 13,633 fish (937 fish by charter boats; 12,696 fish by private anglers), which is a 20% decrease compared to 2018.

Wave-1 Recreational Harvest Estimates

Evidence suggests that North Carolina, Virginia, and possibly other states have had sizeable wave-1 (January/February) recreational striped bass fisheries beginning in 1996 (NEFSC 2018b). MRIP, formerly the Marine Recreational Fisheries Statistics Survey (MRFSS), has sampled for striped bass in North Carolina during wave-1 since 2004 (other states are not currently covered during wave-1). Virginia harvest in wave-1 is estimated for stock assessment via the ratio of landings and tag returns in wave-6 and regression analysis (refer to the methods described in NEFSC 2018a for more detail).

However, based on fishery-independent data collected by NCDMF, ASMFC and USFWS, striped bass distributions on their overwintering grounds during December through February has changed significantly since the mid-2000s. The migratory portion of the stocks has been well offshore in the EEZ (>3 miles) effecting both Virginia's and North Carolina's striped bass winter ocean fisheries in recent years. Furthermore, North Carolina has reported zero recreational striped bass harvest during wave-1 in the ocean for 2012-2019, and Virginia has reported zero ocean harvest for five of the last six years. Similarly, North Carolina's commercial fishery has reported zero striped bass landings from the ocean during that time.

Addendum II: Juvenile Abundance Index Analysis

The following states are required to conduct striped bass young-of-year juvenile abundance index (JAI) surveys on an annual basis: Maine for the Kennebec River; New York for the Hudson River; New Jersey for the Delaware River; Maryland for the Maryland Chesapeake Bay tributaries; Virginia for the Virginia Chesapeake Bay tributaries; and North Carolina for the A-R stock.

The PRT and the Striped Bass Technical Committee (TC) annually review trends in all required JAIs. The definition of recruitment failure is a value that is below 75% (the first quartile, or Q1) of all values in a fixed time series appropriate to each juvenile abundance index (see *Addendum II* for details). If any survey's JAI falls below their respective Q1 for three consecutive years, appropriate action should be recommended by the TC to the Management Board.

For the 2020 review of JAIs, the analysis evaluates the 2017, 2018, and 2019 JAI values. No state met the criteria for recruitment failure in 2019 (Figure 8). However, North Carolina's JAI value was below its respective Q1 in 2018 and 2019, while Maine's and New York's values were below their respective Q1

values in 2019. New Jersey's and Virginia's JAI values in 2019 were both right at their respective long-term average, and Maryland's 2019 JAI was below its long-term average (Figure 8).

Addendum III: Commercial Fish Tagging Program

Addendum III to Amendment 6 includes compliance requirements for monitoring commercial fishery harvest tagging programs. In 2019, all states implemented commercial tagging programs consistent with the requirements of Addendum III. Table 11 describes commercial tagging programs by state.

Law Enforcement Reporting

States are asked to report and summarize law enforcement cases that occurred the previous season in annual compliance reports. In 2019, reported law enforcement cases (e.g., the number of warnings and citations) were similar to those reported in previous years. The most common violations were recreationally harvested fish under the legal size limit and possessing fish in excess of the bag limit. Several states indicated that enforcement and angler education initiatives will increase in 2020 in response to Addendum VI, and new circle hook mandates.

VII. Plan Review Team Comments and Recommendations

- In 2019, and based on annual state compliance reports (ASMFC 2020), the PRT determined that all states implemented a management and monitoring program consistent with the provisions of Amendment 6 and Addenda I – IV.
- A summary of 2019 fishery regulations by state is provided in Table 1 and Table 2. Each state's commercial tag monitoring program is described in Table 11, and state compliance with fishery-independent and –dependent monitoring requirements are summarized in Table 12.
- In 2019, Virginia reduced the recreational bag limit in the Chesapeake Bay fishery to 1 fish/day, and implemented a 28" maximum size limit for the Chesapeake Bay spring fishery, and a 36" maximum size limit for the ocean and Chesapeake Bay fall fisheries. These actions are considered more restrictive than what is required by the FMP, therefore, prior Board approval was not required.
- New York's and Delaware's 2020 recreational regulations permit harvest of fish less than or equal to the maximum size limit. Delaware is in the process of adjusting its regulations so that fish equal to the maximum size limit would be released (the adjusted language will take effect in August).
- The PRT notes that while the New York spawning stock monitoring program in the Hudson River does meet the FMP's fishery-independent monitoring requirements, it does not provide an index of relative abundance to characterize the Hudson River stock which was identified as a high priority research recommendation at SAW 66.
- Finally, the PRT notes that many fishery monitoring efforts in 2020 have been (or will be) impacted due to the COVID-19 pandemic, including fishery-independent surveys, APAIS interviews, and sampling of commercial and recreational catch.

VIII. Research Recommendations

The following categorized and prioritized research recommendations were developed by the 2018 Benchmark Stock Assessment Subcommittee and the 66th SARC:

Fishery-Dependent Priorities

High

- Continue collection of paired scale and otolith samples, particularly from larger striped bass, to facilitate development of otolith-based age-length keys and scale-otolith conversion matrices.
- Develop studies to provide information on gear specific (including recreational fishery) discard morality rates and to determine the magnitude of bycatch mortality[8].
- Conduct study to directly estimate commercial discards in the Chesapeake Bay.
- Collect sex ratio information on the catch and improve methods for determining population sex ratio for use in estimates of female SSB and biological reference points.

Moderate

- Improve estimates of striped bass harvest removals in coastal areas during wave 1 and in inland waters of all jurisdictions year round.

Fishery-Independent Priorities

High

- Develop an index of relative abundance from the Hudson River Spawning Stock Biomass survey to better characterize the Delaware Bay/Hudson River stock.
- Improve the design of existing spawning stock surveys for Chesapeake Bay and Delaware Bay.

Moderate

- Develop a refined and cost-efficient, fisheries-independent coastal population index for striped bass stocks.
- Collect sex ratio information from fishery-independent sources to better characterize the population sex ratio.

Modeling/Quantitative Priorities

High

- Develop better estimates of tag reporting rates; for example, through a coastwide tagging study.
- Investigate changes in tag quality and potential impacts on reporting rate.
- Explore methods for combining tag results from programs releasing fish from different areas on different dates.
- Develop field or modeling studies to aid in estimation of natural mortality and other factors affecting the tag return rate.
- Compare M and F estimates from acoustic tagging programs to conventional tagging programs.

Moderate

- Examine methods to estimate temporal variation in natural mortality.

Low

[8] Literature search and some modeling work completed.

- Evaluate truncated matrices to reduce bias in years with no tag returns and covariate based tagging models to account for potential differences from size or sex or other covariates.

Life History and Biology

High

- Continue in-depth analysis of migrations, stock compositions, sex ratio, etc. using mark-recapture data[9].
- Continue evaluation of striped bass dietary needs and relation to health condition.
- Continue analysis to determine linkages between the Mycobacteriosis outbreak in Chesapeake Bay and sex ratio of Chesapeake spawning stock, Chesapeake juvenile production, and recruitment success into coastal fisheries.

Moderate

- Examine causes of different tag based survival estimates among programs estimating similar segments of the population.
- Continue to conduct research to determine limiting factors affecting recruitment and possible density implications.
- Conduct study to calculate the emigration rates from producer areas now that population levels are high and conduct multi-year study to determine inter-annual variation in emigration rates.

Striped Bass Research Priorities Identified as Being Met or Well in Progress

- Evaluate to what extent rising natural mortality among Chesapeake Bay striped bass affects the existing F and female SSB thresholds, which are based on a fixed M assumption (M = 0.15).
- Develop simulation models to look at the implications of overfishing definitions relative to development of a striped bass population that will provide “quality” fishing. Quality fishing must first be defined.
- Evaluate the stock status definitions relative to uncertainty in biological reference points.
- Develop a method to integrate catch-at-age and tagging models to produce a single estimate of F and stock status[10].
- Develop a spatially and temporally explicit catch-at-age model incorporating tag based movement information[11].
- Develop maturity ogives applicable to coastal migratory stocks.

[9] Ongoing through Cooperative Winter Tagging Cruise and striped bass charter boat tagging trips. See Cooperative Winter Tagging Cruise 20 Year Report.

[10] Model developed, but the tagging data overwhelms the model. Issues remain with proper weighting.

[11] Model developed with Chesapeake Bay and the rest of the coast as two stocks. External analysis of tagging data is used to inform the model but is not explicitly incorporated.

IX. References

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X. Tables and Figures

Table 1. Summary of Atlantic Striped bass commercial regulations in 2019. Source: 2020 State Compliance Reports. Minimum sizes and slot size limits are in total length (TL). *commercial quota reallocated to recreational bonus fish program.

STATE	SIZE LIMITS (TL) and TRIP LIMITS	SEASONAL QUOTA	OPEN SEASON
ME	Commercial fishing prohibited		
NH	Commercial fishing prohibited		
MA	34" minimum size; no gaffing undersized fish. 15 fish/day with commercial boat permit; 2 fish/day with rod and reel permit.	869,813 lbs. Hook & Line only.	6.23 until quota reached, Mondays and Thursdays only. July 3rd, July 4th and Labor Day closed.
RI	Floating fish trap: 26" minimum size unlimited possession limit until 70% of quota reached, then 500 lbs. per licensee per day	Total: 181,572 lbs., split 39:61 between the trap and general category. Gill netting prohibited.	4.1 – 12.31
	General category (mostly rod & reel): 34" min. 5 fish/vessel/day limit.		5.20-6.30, 7.1-12.31. Closed Fridays and Saturdays during both seasons.
CT*	Commercial fishing prohibited; bonus program: 22" to <28" slot size limit (1 fish/year)	17,813 lbs. (3,018 fish)	5.1 – 12.31 (voucher required)
NY	28"-38" slot size; (Hudson River closed to commercial harvest)	795,795 lbs. Pound Nets, Gill Nets (6-8"stretched mesh), Hook & Line.	6.1 – 12.15. Limited entry permit only.
NJ*	Commercial fishing prohibited; bonus program: 1 fish at 24" to <28" slot size limit	215,912 lbs.	9.1 – 12.31 (permit required)
PA	Commercial fishing prohibited		
DE	Gill Net: 20" min in DE Bay/River during spring season. 28" in all other waters/seasons.	Gill Net: 128,385 lbs. No fixed nets in DE River.	2.15-5.31 (2.15-3.30 for Nanticoke River) & 11.15-12.31; drift nets only 2.15-28 & 5.1-31;
	Hook and Line: 28" min	6,757 lbs.	Hook and Line: 4.1–12.31, 200 lbs/day trip limit

(Table 1 continued – Summary of commercial regulations in 2019).

STATE	SIZE LIMITS (TL) and TRIP LIMITS	SEASONAL QUOTA	OPEN SEASON
MD	Chesapeake Bay and Rivers: 18–36”	1,471,888 lbs. (part of Bay-wide quota)	Bay Pound Net: 6.1-12.31, Mon-Sat Bay Haul Seine: 6.1-12.31, Mon-Fri Bay Hook & Line: 6.4-12.31, Mon-Thu Bay Drift Gill Net: 1.1-2.28, 12.1-12.31, Mon-Fri
	Ocean: 24” minimum	Ocean: 90,727 lbs.	1.1-5.31, 10.1-12.31, Mon- Fri
PRFC	18” min all year; 36” max 2.15–3.25 (and 1.1-3.1 for H&L fisheries)	583,362 lbs. (part of Bay-wide quota).	Hook & Line: 1.1-3.25, 6.1-12.31 Pound Net & Other: 2.15-3.25, 6.1-12.15 Gill Net: 1.1-3.25, 11.15-12.31 Misc. Gear: 2.15-3.25, 6.1-12.15
VA	Bay and Rivers: 18” min; 28” max size limit 3.26–6.15	1,064,997 lbs. (part of Bay-wide quota)	1.16-12.31
	Ocean: 28” min	138,640 lbs.	
NC	Ocean: 28” min	360,360 lbs. (split between gear types). Number of fish allocated to each permit holder.	Seine fishery was not opened Gill net fishery was not opened Trawl fishery was not opened

Table 2. Summary of Atlantic Striped bass recreational regulations in 2019. Source: 2020 State Compliance Reports. Minimum sizes and slot size limits are in total length (TL).

STATE	SIZE LIMITS (TL)/REGION	BAG LIMIT	GEAR/FISHING RESTRICTIONS	OPEN SEASON
ME	≥ 28" minimum size	1 fish/day	Hook & line only; circle hooks only when using live bait	All year, except spawning areas are closed 12.1-4.30 and C&R only 5.1-6.30
NH	≥ 28" minimum size	1 fish/day	Gaffing and culling prohibited	All year
MA	≥ 28" minimum size	1 fish/day	Hook & line only; no high-grading; no gaffing undersized fish.	All year
RI	≥ 28" minimum size	1 fish/day	None	All year
CT	≥ 28" minimum size	1 fish/day	Spearing and gaffing prohibited	All year
NY	Ocean and DE River: 28" minimum size	1 fish/day	Angling only. Spearing permitted in ocean waters. C&R during closed season.	Ocean: 4.15-12.15 Delaware River: All year
	HR: 18-28" slot limit, or >40"	1 fish/day	Angling only. No C&R during closed season.	Hudson River: 4.1-11.30
NJ	1 fish at 28 to < 43", and 1 fish ≥ 43"		Closed 1.1 – Feb 28 in all waters except in the Atlantic Ocean, and 4.1-5.31 in the lower DE River and tribs	
PA	Upstream from Calhoun St Bridge: 1 fish at ≥ 28" minimum size			
	Downstream from Calhoun St Bridge: 1 fish at ≥ 28" minimum size, 2 fish at 21- <25" slot size limit from 4.1 – 5.31			
DE	28" min, no harvest 38-43" (inclusive).	2 fish/day	Hook & line, spear (for divers) only. Circle hooks required in spawning season.	All year. C&R only 4.1-5.31 in spawning grounds. 20"-25"slot from 7.1-8.31 in DE River, Bay & tribs,

(Table 2 continued – Summary of recreational regulations in 2019).

STATE	SIZE LIMITS/REGION	BAG LIMIT	GEAR/FISHING RESTRICTIONS	OPEN SEASON
MD	Ocean: 28-38" slot, or >44"	2 fish/day		All year
	Chesapeake Bay and tribs^	C&R only	no eels; no stinger hooks; barbless hooks when trolling; circle or J-hooks when using live bait; max 6 lines when trolling	1.1-2.28, 3.1-4.19
	Chesapeake Bay: 35" min	1 fish/day	Geographic restrictions apply	4.20-5.15
	Chesapeake Bay and tribs: 2 fish/day, 19" minimum size and only 1 fish >28"		All Bay and tribs open; circle hooks if chumming or live-lining; no treble hooks when bait fishing	6.1-12.15
PRFC	Spring Trophy: 1 fish/day, 35” minimum size		No more than two hooks or sets of hooks for each rod or line	4.20-5.15
	Summer and Fall: 2 fish/day, 20” min and only 1 fish >28”			5.16-12.31
DC	2 fish/day, 20” min and only 1 fish >28”		Hook and line only	5.16-12.31
VA	Ocean: 28”-36” slot limit	1 fish/day	Hook & line, rod & reel, hand line only. No gaffing.	1.1-3.31, 5.16-12.31
	Ocean Spring Trophy: NO SPRING TROPHY SEASON			
	Chesapeake Bay Spring Trophy: NO SPRING TROPHY SEASON			
	Bay Spring: 20”-28” slot limit	1 fish/day		5.16-6.15
	Bay Fall: 20 - 36”	1 fish/day		10.4-12.31
NC	≥ 28” minimum size	1 fish/day	No gaffing allowed	All year

^ Susquehanna Flats: C&R only Jan 1 – May 3; 1 fish at 19”-26” slot May 16 – May 31. Northeast River: C&R only May 16 – May 31

Table 3. Total removals (harvest plus discards/release mortality) of Atlantic striped bass by sector in numbers of fish, 1990-2019. Note: Harvest is from ACCSP/MRIP, discards/release mortality is from ASMFC. Estimates exclude inshore harvest from North Carolina.

Year	Commercial		Recreational		Total Removals
	Harvest	Discards*	Harvest	Release Mortality	
1990	93,888	46,912	578,897	442,811	1,162,508
1991	158,491	88,486	798,260	715,478	1,760,714
1992	256,476	184,638	869,779	937,611	2,248,505
1993	314,483	113,410	789,037	812,404	2,029,333
1994	325,401	162,970	1,055,523	1,360,872	2,904,765
1995	537,412	189,819	2,287,578	2,010,689	5,025,498
1996	854,094	263,510	2,487,422	2,600,526	6,205,552
1997	1,076,460	337,085	2,774,981	2,969,781	7,158,307
1998	1,215,219	353,224	2,915,390	3,259,133	7,742,966
1999	1,223,572	339,103	3,123,496	3,140,905	7,827,075
2000	1,216,812	208,415	3,802,477	3,044,203	8,271,906
2001	931,412	175,656	4,052,474	2,449,599	7,609,141
2002	928,085	191,561	4,005,084	2,792,200	7,916,931
2003	854,326	130,646	4,781,402	2,848,445	8,614,819
2004	879,768	158,311	4,553,027	3,665,234	9,256,339
2005	970,403	141,415	4,480,802	3,441,928	9,034,549
2006	1,047,648	153,276	4,883,961	4,812,332	10,897,218
2007	1,015,226	159,830	3,944,679	2,944,253	8,063,988
2008	1,027,837	107,778	4,381,186	2,391,200	7,908,000
2009	1,049,959	130,819	4,700,222	1,942,061	7,823,061
2010	1,031,430	133,970	5,388,440	1,760,759	8,314,599
2011	944,777	85,848	5,006,358	1,482,029	7,519,013
2012	870,606	197,412	4,046,299	1,847,880	6,962,196
2013	784,379	111,580	5,157,760	2,393,425	8,447,144
2014	750,263	113,080	4,033,746	2,172,342	7,069,431
2015	621,952	88,497	3,085,725	2,307,133	6,103,307
2016	606,087	87,827	3,500,434	2,981,430	7,175,777
2017	592,670	91,338	2,939,777	3,420,645	7,044,430
2018	625,177	90,092	2,244,766	2,826,667	5,786,702
2019*	650,511	78,990	2,150,935	2,589,045	5,469,481

* Commercial dead discard estimates are derived via a generalized additive model (GAM), and are therefore re-estimated for the entire time series when a new year of data is added

Table 4. Total harvest of Atlantic striped bass by sector, 1990-2019. Note: Harvest is from ACCSP/MRIP. Estimates exclude inshore harvest from North Carolina.

Year	Numbers of Fish			Pounds		
	Commercial	Recreational	Total	Commercial	Recreational	Total
1990	93,888	578,897	672,785	715,902	8,207,515	8,923,417
1991	158,491	798,260	956,751	966,096	10,640,601	11,606,697
1992	256,476	869,779	1,126,255	1,508,064	11,921,967	13,430,031
1993	314,483	789,037	1,103,520	1,800,176	10,163,767	11,963,943
1994	325,401	1,055,523	1,380,924	1,877,197	14,737,911	16,615,108
1995	537,412	2,287,578	2,824,990	3,775,586	27,072,321	30,847,907
1996	854,094	2,487,422	3,341,516	4,822,874	28,625,685	33,448,559
1997	1,076,460	2,774,981	3,851,441	6,077,751	30,616,093	36,693,844
1998	1,215,219	2,915,390	4,130,609	6,552,111	29,603,199	36,155,310
1999	1,223,572	3,123,496	4,347,068	6,474,290	33,564,988	40,039,278
2000	1,216,812	3,802,477	5,019,289	6,719,521	34,050,817	40,770,338
2001	931,412	4,052,474	4,983,886	6,266,769	39,263,154	45,529,923
2002	928,085	4,005,084	4,933,169	6,138,180	41,840,025	47,978,205
2003	854,326	4,781,402	5,635,728	6,750,491	54,091,836	60,842,327
2004	879,768	4,553,027	5,432,795	7,317,897	53,031,074	60,348,971
2005	970,403	4,480,802	5,451,205	7,121,492	57,421,174	64,542,666
2006	1,047,648	4,883,961	5,931,609	6,568,970	50,674,431	57,243,401
2007	1,015,226	3,944,679	4,959,905	7,047,179	42,823,614	49,870,793
2008	1,027,837	4,381,186	5,409,023	7,190,701	56,665,318	63,856,019
2009	1,049,959	4,700,222	5,750,181	7,216,792	54,411,389	61,628,181
2010	1,031,430	5,388,440	6,419,870	6,996,713	61,431,360	68,428,073
2011	944,777	5,006,358	5,951,135	6,789,792	59,592,092	66,381,884
2012	870,606	4,046,299	4,916,905	6,516,868	53,256,619	59,773,487
2013	784,379	5,157,760	5,942,139	5,819,678	65,057,289	70,876,967
2014	750,263	4,033,746	4,784,009	5,937,949	47,948,610	53,886,559
2015	621,952	3,085,725	3,707,677	4,829,997	39,898,799	44,728,796
2016	606,087	3,500,434	4,106,521	4,831,442	43,671,532	48,502,974
2017	592,670	2,939,777	3,532,447	4,816,395	37,961,037	42,777,432
2018	625,177	2,244,766	2,869,943	4,770,463	23,069,028	27,839,491
2019	650,511	2,150,935	2,801,446	4,199,502	23,556,287	27,755,789

Table 5. Commercial harvest by region in pounds (x1000), 1995-2019. Source: ACCSP. ^Estimates exclude inshore harvest.

Year	Ocean								Chesapeake Bay				Grand Total
	MA	RI	NY	DE	MD	VA	NC^	Total	MD	PRFC	VA	Total	
1995	751.5	113.5	500.8	38.5	79.3	46.2	344.6	1,874.3	1,185.0	198.5	517.8	1,901.3	3,775.6
1996	695.9	122.6	504.4	120.5	75.7	165.9	58.2	1,743.2	1,487.7	346.8	1,245.2	3,079.7	4,822.9
1997	784.9	96.5	460.8	166.0	94.0	179.1	463.1	2,244.4	2,119.2	731.1	983.0	3,833.4	6,077.8
1998	810.1	94.7	485.9	163.7	84.6	375.0	273.0	2,287.0	2,426.7	726.2	1,112.2	4,265.1	6,552.1
1999	766.2	119.7	491.8	176.3	62.6	614.8	391.5	2,622.9	2,274.8	653.3	923.4	3,851.4	6,474.3
2000	796.2	111.8	542.7	145.1	149.7	932.7	162.4	2,840.5	2,261.8	666.0	951.2	3,879.0	6,719.5
2001	815.4	129.7	633.1	198.6	113.9	782.4	381.1	3,054.1	1,660.9	658.7	893.1	3,212.6	6,266.8
2002	924.9	129.2	518.6	146.2	93.2	710.2	441.0	2,963.2	1,759.4	521.0	894.4	3,174.9	6,138.2
2003	1,055.5	190.2	753.3	191.2	103.9	166.4	201.2	2,661.7	1,721.8	676.6	1,690.4	4,088.7	6,750.5
2004	1,214.2	215.1	741.7	176.5	134.2	161.3	605.4	3,248.3	1,790.3	772.3	1,507.0	4,069.6	7,317.9
2005	1,102.2	215.6	689.8	174.0	46.9	185.2	604.5	3,018.2	2,008.7	533.6	1,561.0	4,103.3	7,121.5
2006	1,322.3	5.1	688.4	184.2	91.1	195.0	74.2	2,560.2	2,116.3	673.5	1,219.0	4,008.7	6,569.0
2007	1,039.3	240.6	731.5	188.7	96.3	162.3	379.5	2,838.1	2,240.6	599.3	1,369.2	4,209.1	7,047.2
2008	1,160.3	245.9	653.1	188.7	118.0	163.1	288.4	2,817.6	2,208.0	613.8	1,551.3	4,373.1	7,190.7
2009	1,134.3	234.8	789.9	192.3	127.3	140.4	190.0	2,809.0	2,267.3	727.2	1,413.3	4,407.8	7,216.8
2010	1,224.5	248.9	786.8	185.4	44.8	127.8	276.4	2,894.7	2,105.8	683.2	1,313.0	4,102.0	6,996.7
2011	1,163.9	228.2	855.3	188.6	21.4	158.8	246.4	2,862.5	1,955.1	694.2	1,278.1	3,927.3	6,789.8
2012	1,218.5	239.9	683.8	194.3	77.6	170.8	7.3	2,592.0	1,851.4	733.8	1,339.6	3,924.8	6,516.9
2013	1,004.5	231.3	823.8	191.4	93.5	182.4	0.0	2,526.9	1,662.2	623.8	1,006.8	3,292.8	5,819.7
2014	1,138.5	216.9	531.5	167.9	120.9	183.7	0.0	2,359.4	1,805.7	603.4	1,169.4	3,578.5	5,937.9
2015	866.0	188.3	516.3	144.1	34.6	138.1	0.0	1,887.5	1,436.9	538.0	967.6	2,942.5	4,830.0
2016	938.7	174.7	575.0	136.5	19.7	139.2	0.0	1,983.9	1,425.5	519.8	902.3	2,847.5	4,831.4
2017	823.4	175.3	701.2	141.8	80.5	133.9	0.0	2,056.1	1,439.8	492.7	827.8	2,760.3	4,816.4
2018	753.7	176.6	617.2	155.0	79.8	134.2	0.0	1,916.6	1,424.3	478.6	951.0	2,853.9	4,770.5
2019	584.7	144.2	358.9	132.6	82.8	119.2	0.0	1,422.5	1,475.2	353.5	948.4	2,777.0	4,199.5

Table 6. Commercial harvest and discards by region in numbers of fish (x1000), 1995-2019. Source: harvest is from ACCSP, discards is from ASMFC. ^excludes inshore harvest.

Year	Ocean								Chesapeake Bay				Discards*			Grand Total Removals
	MA	RI	NY	DE	MD	VA	NC^	Total	MD	PRFC	VA	Total	Ocean	Bay	Total	
1995	39.9	19.7	43.7	5.6	4.0	9.9	23.4	146.1	267.0	29.3	95.0	391.3	146.9	42.9	189.8	727.2
1996	37.3	18.6	40.5	20.7	9.0	14.1	3.3	143.5	486.2	46.2	178.2	710.6	172.7	90.8	263.5	1,117.6
1997	44.0	7.1	37.6	33.2	8.4	17.3	25.8	173.4	620.3	87.6	195.2	903.1	254.6	82.5	337.1	1,413.5
1998	44.3	8.8	45.1	31.4	10.3	41.1	14.2	195.2	729.6	93.3	197.1	1,020.1	317.1	36.1	353.2	1,568.4
1999	40.9	11.6	49.9	34.8	10.2	48.7	21.1	217.2	776.0	90.6	139.8	1,006.3	305.3	33.8	339.1	1,562.7
2000	42.1	9.4	54.9	25.2	13.3	54.5	6.5	205.8	787.6	91.5	132.0	1,011.0	176.8	31.7	208.4	1,425.2
2001	45.8	10.9	58.3	34.4	11.1	42.3	25.0	227.7	538.8	87.8	77.1	703.7	138.5	37.1	175.7	1,107.1
2002	49.8	11.7	47.1	30.4	10.2	38.8	23.2	211.3	571.7	80.3	64.7	716.8	146.8	44.8	191.6	1,119.6
2003	56.4	15.5	68.4	31.5	11.6	10.5	5.8	199.6	427.9	83.1	143.7	654.7	96.7	33.9	130.6	985.0
2004	63.6	16.0	70.4	28.4	14.1	10.4	31.0	233.9	447.0	92.6	106.3	645.9	110.0	48.3	158.3	1,038.1
2005	60.5	14.9	70.6	26.3	6.1	11.3	27.3	217.1	563.9	80.6	108.9	753.3	85.9	55.5	141.4	1,111.8
2006	70.5	15.4	73.6	30.2	10.9	11.5	2.7	214.9	645.1	92.3	95.4	832.7	98.2	55.1	153.3	1,200.9
2007	54.2	13.9	78.5	31.1	11.6	10.6	16.8	216.7	587.6	86.6	124.3	798.5	94.2	65.7	159.8	1,175.1
2008	61.1	16.6	73.3	31.9	14.0	10.8	13.4	221.0	580.7	82.0	144.1	806.8	63.2	44.5	107.8	1,135.6
2009	59.4	16.8	82.6	21.6	12.5	8.9	9.0	210.9	605.6	89.7	143.8	839.1	60.8	70.1	130.8	1,180.8
2010	60.4	15.7	82.4	19.8	5.4	9.4	13.7	206.7	579.2	90.6	154.9	824.7	41.0	93.0	134.0	1,165.4
2011	58.7	14.3	87.4	20.5	2.1	12.2	10.9	206.0	488.9	96.1	153.7	738.7	35.2	50.6	85.8	1,030.6
2012	61.5	15.0	67.1	15.7	6.9	10.8	0.3	177.3	465.6	90.6	137.0	693.3	25.6	171.8	197.4	1,068.0
2013	58.6	13.8	76.2	17.7	7.6	10.0	0.0	183.8	391.5	78.0	131.0	600.5	37.6	74.0	111.6	896.0
2014	58.0	10.5	52.9	14.9	8.5	10.0	0.0	154.8	362.2	81.5	151.8	595.5	47.6	65.5	113.1	863.3
2015	42.3	11.3	45.6	11.0	2.6	7.7	0.0	120.4	298.3	71.0	132.2	501.5	34.7	53.8	88.5	710.4
2016	48.0	11.7	51.0	8.8	1.2	7.6	0.0	128.3	284.9	70.7	122.2	477.8	42.0	45.8	87.8	693.9
2017	41.2	10.1	61.6	9.5	3.5	7.6	0.0	133.5	263.6	67.5	128.0	459.2	73.0	18.4	91.3	684.0
2018	37.8	10.1	52.2	11.4	3.5	6.9	0.0	121.9	286.4	68.5	148.4	503.3	54.3	38.8	93.1	718.3
2019*	29.6	7.3	29.6	8.2	3.3	6.3	0.0	84.2	356.7	60.6	149.0	566.3	21.4	57.5	79.0	729.5

* Commercial dead discard estimates are derived via a generalized additive model (GAM), and are therefore re-estimated for the entire time series when a new year of data is added

Table 7. Total recreational catch, releases, and release mortality in numbers of fish by region (x1000), 1995-2019. Source: MRIP. Estimates exclude inshore harvest from North Carolina.

Year	Harvest (A+B1)			Releases (B2)			Total Catch (A+B1+B2)			Release Mortality (9% of B2)		
	Ocean	Bay	Total	Ocean	Bay	Total	Ocean	Bay	Total	Ocean	Bay	Total
1995	1,260	1,028	2,288	16,587	5,754	22,341	17,847	6,782	24,629	1,493	518	2,011
1996	1,362	1,125	2,487	22,384	6,511	28,895	23,746	7,636	31,382	2,015	586	2,601
1997	1,514	1,261	2,775	22,819	10,178	32,998	24,333	11,439	35,773	2,054	916	2,970
1998	1,647	1,268	2,915	29,294	6,918	36,213	30,941	8,187	39,128	2,637	623	3,259
1999	1,758	1,366	3,123	26,139	8,760	34,899	27,897	10,125	38,022	2,353	788	3,141
2000	2,198	1,604	3,802	25,090	8,734	33,824	27,289	10,338	37,627	2,258	786	3,044
2001	2,758	1,294	4,052	21,073	6,145	27,218	23,831	7,440	31,270	1,897	553	2,450
2002	2,756	1,249	4,005	23,653	7,371	31,024	26,409	8,620	35,030	2,129	663	2,792
2003	3,124	1,658	4,781	20,678	10,971	31,649	23,802	12,628	36,431	1,861	987	2,848
2004	3,078	1,475	4,553	27,868	12,857	40,725	30,946	14,332	45,278	2,508	1,157	3,665
2005	3,182	1,299	4,481	28,663	9,580	38,244	31,845	10,879	42,724	2,580	862	3,442
2006	2,789	2,095	4,884	41,239	12,232	53,470	44,028	14,327	58,354	3,711	1,101	4,812
2007	2,327	1,618	3,945	25,135	7,579	32,714	27,462	9,196	36,659	2,262	682	2,944
2008	3,025	1,356	4,381	21,878	4,691	26,569	24,904	6,046	30,950	1,969	422	2,391
2009	2,898	1,803	4,700	16,740	4,838	21,578	19,638	6,641	26,279	1,507	435	1,942
2010	3,906	1,483	5,388	13,606	5,957	19,564	17,512	7,440	24,952	1,225	536	1,761
2011	3,617	1,389	5,006	12,644	3,823	16,467	16,261	5,212	21,473	1,138	344	1,482
2012	3,071	975	4,046	11,242	9,290	20,532	14,314	10,265	24,578	1,012	836	1,848
2013	3,723	1,435	5,158	19,463	7,131	26,594	23,186	8,565	31,751	1,752	642	2,393
2014	2,276	1,758	4,034	15,107	9,031	24,137	17,382	10,789	28,171	1,360	813	2,172
2015	1,770	1,316	3,086	15,419	10,216	25,635	17,189	11,532	28,721	1,388	919	2,307
2016	1,817	1,683	3,500	17,794	15,333	33,127	19,611	17,016	36,627	1,601	1,380	2,981
2017	1,738	1,202	2,940	28,951	9,045	37,996	30,689	10,247	40,936	2,606	814	3,420
2018	1,195	1,050	2,245	22,739	8,669	31,407	23,933	9,719	33,652	2,046	780	2,827
2019	1,342	809	2,151	21,131	7,636	28,767	22,473	8,445	30,918	1,902	687	2,589

Table 8. Recreational harvest by region in pounds (x1000), 1995-2019. Source: MRIP. ^Estimates exclude inshore harvest.

Year	Ocean												Chesapeake Bay			Grand Total
	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC^	Total	MD	VA	Total	
1995	83	127	2,739	1,049	1,331	5,594	8,587	301	0.0	141	232	20,184	3,115	3,773	6,889	27,072
1996	95	183	2,983	1,626	1,405	10,739	3,959	795	0.0	812	392	22,990	2,789	2,847	5,636	28,626
1997	223	538	5,133	1,997	2,263	8,543	2,179	374	0.0	1,096	865	23,211	3,203	4,203	7,405	30,616
1998	305	262	7,359	1,544	1,807	4,889	4,182	645	579	545	636	22,754	3,023	3,826	6,849	29,603
1999	196	181	4,995	1,904	1,327	7,414	9,473	312	3.8	110	339	26,256	2,323	4,986	7,309	33,565
2000	347	109	4,863	2,008	890	7,053	9,768	925	0.0	416	277	26,656	3,503	3,892	7,395	34,051
2001	446	334	7,188	2,044	1,101	5,058	12,314	695	314	382	1,082	30,959	2,928	5,376	8,304	39,263
2002	775	322	10,261	2,708	1,251	5,975	9,621	589	0.0	1,135	998	33,634	2,643	5,563	8,206	41,840
2003	458	466	10,252	4,052	2,666	10,788	12,066	763	14	392	966	42,882	5,246	5,964	11,210	54,092
2004	554	268	9,329	2,460	2,229	6,437	13,303	870	57	1,067	6,656	43,230	4,860	4,941	9,801	53,031
2005	546	384	7,541	3,155	3,133	11,637	14,289	680	7.7	487	3,947	45,808	7,753	3,860	11,614	57,421
2006	610	244	6,787	1,569	2,854	9,845	12,716	586	2.8	921	2,975	39,109	6,494	5,071	11,565	50,674
2007	422	93	7,010	2,077	2,786	10,081	8,390	207	0.0	516	1,965	33,547	5,249	4,027	9,277	42,824
2008	607	182	8,424	970	2,273	18,000	12,407	847	0.0	1,690	750	46,150	5,639	4,877	10,515	56,665
2009	781	222	9,410	2,185	1,458	7,991	17,040	940	138	48	187	40,399	8,672	5,340	14,012	54,411
2010	218	238	9,959	2,102	2,323	18,190	17,454	895	107	206	1,198	52,891	6,482	2,059	8,541	61,431
2011	245	659	11,953	3,066	981	13,151	15,715	605	8.6	308	4,467	51,157	6,220	2,214	8,435	59,592
2012	152	432	14,941	2,096	1,835	13,096	11,551	644	21	1.7	0.0	44,768	3,819	4,670	8,488	53,257
2013	331	831	9,025	4,428	4,236	16,819	19,451	1,073	1,051	67	0.0	57,313	5,137	2,607	7,744	65,057
2014	423	203	7,965	3,402	2,665	13,998	8,886	381	159	0.0	0.0	38,083	8,877	989	9,866	47,949
2015	132	202	7,799	1,394	2,585	8,695	9,982	340	28	0.0	0.0	31,156	7,786	957	8,743	39,899
2016	189	191	3,731	1,776	912	12,053	12,790	86	7.2	0.0	0.0	31,735	10,912	1,024	11,936	43,672
2017	318	394	5,664	1,655	1,560	8,885	10,880	666	0.0	1.8	0.0	30,024	7,309	627	7,937	37,961
2018	142	130	4,925	1,121	1,165	3,453	7,012	33	0.0	0.0	0.0	17,982	4,683	404	5,087	23,069
2019	415	291	2,698	2,300	685	7,072	6,674	44	7.3	0.0	0.0	20,187	3,145	224	3,370	23,556

Table 9. Recreational harvest by region in numbers of fish (x1000), 1995-2019. Source: MRIP. ^Estimates exclude inshore harvest.

Year	Ocean												Chesapeake Bay			Grand Total
	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC^	Total	MD	VA	Total	
1995	4.0	7.4	124.3	70.9	75.8	250.3	671.4	25.8	0.1	13.4	16.5	1,259.8	491.1	536.7	1,027.7	2,287.6
1996	4.1	11.0	156.6	100.6	95.9	511.6	301.2	59.7	0.0	89.6	31.7	1,362.0	564.2	561.3	1,125.5	2,487.4
1997	43.0	29.9	365.6	124.7	149.0	450.5	171.2	29.1	0.0	91.1	60.1	1,514.1	552.4	708.4	1,260.8	2,775.0
1998	65.3	14.8	500.9	91.1	114.1	383.8	289.2	51.0	24.3	71.3	41.2	1,647.0	596.2	672.2	1,268.4	2,915.4
1999	37.5	9.9	327.1	116.6	88.2	450.9	657.1	28.3	1.6	14.1	26.4	1,757.8	530.9	834.8	1,365.7	3,123.5
2000	77.3	6.0	306.2	156.8	84.0	494.6	939.8	88.3	0.0	27.2	18.1	2,198.3	810.9	793.3	1,604.2	3,802.5
2001	91.9	23.5	551.0	149.8	78.2	364.2	1,267.5	70.6	64.1	36.7	60.7	2,758.1	513.3	781.1	1,294.4	4,052.5
2002	135.2	28.1	723.5	181.5	92.5	439.3	957.6	65.7	0.0	76.4	56.3	2,756.1	464.4	784.6	1,249.0	4,005.1
2003	99.7	41.3	797.2	226.4	181.7	678.4	942.8	75.7	0.9	29.3	50.4	3,123.8	816.0	841.6	1,657.6	4,781.4
2004	118.3	22.1	666.7	159.6	134.5	458.1	1,042.1	66.6	11.0	75.9	323.2	3,078.1	657.5	817.4	1,474.9	4,553.0
2005	118.3	35.5	536.1	195.6	202.6	854.6	958.1	48.8	3.6	34.2	194.9	3,182.2	815.5	483.1	1,298.6	4,480.8
2006	140.9	20.9	483.2	129.3	168.3	614.8	972.2	44.5	0.4	80.6	134.2	2,789.0	1,342.0	753.0	2,094.9	4,884.0
2007	95.5	8.1	471.9	135.8	163.9	602.8	722.2	17.2	0.0	28.0	81.8	2,327.1	1,127.3	490.3	1,617.6	3,944.7
2008	133.4	11.9	514.1	73.4	132.8	1,169.9	791.0	67.7	0.0	94.4	36.9	3,025.4	779.7	576.1	1,355.8	4,381.2
2009	146.5	17.3	695.0	138.4	100.3	574.2	1,141.5	64.8	10.2	3.0	6.5	2,897.7	1,094.4	708.1	1,802.5	4,700.2
2010	37.3	21.4	808.2	162.0	170.2	1,449.0	1,091.4	61.4	12.5	25.3	67.1	3,905.9	1,139.3	343.2	1,482.6	5,388.4
2011	48.5	54.2	873.5	202.2	91.1	1,005.3	1,038.9	43.7	0.8	51.2	207.6	3,617.1	1,112.1	277.2	1,389.3	5,006.4
2012	31.4	37.3	1,010.6	130.7	137.1	927.5	742.4	51.3	2.9	0.3	0.0	3,071.5	716.7	258.1	974.8	4,046.3
2013	73.3	63.2	658.7	308.3	269.6	902.5	1,324.2	70.6	48.4	4.4	0.0	3,723.2	1,136.7	297.9	1,434.5	5,157.8
2014	86.4	16.5	523.5	172.0	131.8	804.5	501.9	26.2	12.6	0.0	0.0	2,275.5	1,627.0	131.2	1,758.2	4,033.7
2015	14.4	10.0	485.3	67.0	140.8	406.8	600.3	41.9	3.5	0.0	0.0	1,770.1	1,108.0	207.7	1,315.7	3,085.7
2016	14.2	17.6	230.1	128.4	63.3	697.7	659.6	5.9	0.5	0.0	0.0	1,817.2	1,545.1	138.1	1,683.2	3,500.4
2017	22.0	37.7	392.3	59.8	94.9	477.3	625.9	27.8	0.0	0.1	0.0	1,737.8	1,091.6	110.3	1,201.9	2,939.8
2018	16.0	13.4	389.5	39.2	85.5	181.7	465.3	4.2	0.0	0.0	0.0	1,194.6	993.3	56.8	1,050.1	2,244.8
2019	38.0	14.7	195.6	104.1	67.1	498.0	412.9	10.9	1.0	0.0	0.0	1,342.2	764.1	44.6	808.7	2,150.9

Table 10. Results of 2019 commercial quota accounting in pounds. Source: 2020 state compliance reports. 2019 quota was based on Addendum IV, and 2020 quota Addendum VI and approved conservation equivalency programs.

State	2019 Quota	2019 harvest	overage	Add VI (base)	2020 Quota^
Ocean					
Maine*	188	-	-	154	154
New Hampshire*	4,313	-	-	3,537	3,537
Massachusetts	869,813	584,743	0	713,247	735,240
Rhode Island	181,572	144,227	0	148,889	148,889
Connecticut**	17,813	-	-	14,607	14,607
New York	795,795	358,943	0	652,552	640,718
New Jersey**	215,912	-	-	197,877	215,912
Delaware	135,142	132,602	0	118,970	142,474
Maryland	90,727	82,753	0	74,396	89,094
Virginia	138,640	119,191	0	113,685	125,034
North Carolina	360,360	0	0	295,495	295,495
Ocean Total	**2,810,275**	**1,422,459**	**0**	**2,333,409**	**2,411,154**
Chesapeake Bay					
Maryland	1,471,888	1,475,162	3,274	2,588,603	1,442,120
Virginia	1,064,997	948,412	0		983,393
PRFC	583,362	353,468	0		572,861
Bay Total	**3,120,247**	**2,777,042**	**3,274**		**2,998,374**

* Commercial harvest/sale prohibited, with no re-allocation of quota.

** Commercial harvest/sale prohibited, with re-allocation of quota to the recreational fishery.

^ 2020 quota changed through conservation equivalency for MA (735,240 lbs), NY (640,718 lbs), NJ (215,912 lbs), DE (142,474 lbs), MD (ocean: 89,094 lbs; bay: 1,445,394 lbs), PRFC (572,861 lbs), VA (ocean: 125,034 lbs; bay: 983,393 lbs)

Table 11. Status of Commercial Tagging Programs by state for 2019.

State	Total Participants	Tags Issued	Tags Used	Point of Tag (sale/harvest)	[1]Biological Metric (Y/N)	Year, State and Unique ID on Tag (Y/N)	Size Limit on Tag (Y/N)	Tag Colors	Annual Tag Color Change (Y/N)
MA	79	51,180	29,564	Sale	Y	Y	Y	one tag color	Y
RI	21	14,872	7,347	Sale	Y	Y	N	two tag colors by gear	Y
NY	438	76,242	29,578	Harvest	Y	Y	N	One tag color	Y
DE*	259	17,686	8,206	Both	Y	Y	N	Harvest: two tag colors by gear Sale: one color	Y
MD	862	466,634	342,775	Harvest	Y	Y	N	Three tag colors by gear and permit	Y
PRFC	865	81,896	60,638	Harvest	Y	Y	N	Five tag colors by gear	N
VA	330	190,100	155,250	Harvest	Y	Y	Y	two tag colors by area	Y
NC^	378	44,414	33,229	Sale	Y	Y	Y	Three tag colors by area	N

[1] States are required to allocate commercial tags to permit holders based on a biological metric. Most states use the average weight per fish from the previous year, or some variation thereof. Actual biological metric used is reported in Annual Commercial Tag Monitoring Reports.
*The number of tags issued represent the combined total from tags used by harvesters and weigh stations, such that each fish has two tags.
^ All commercial tags were used in the internal waters of North Carolina.

Table 12. Status of compliance with monitoring and reporting requirements in 2019. JAI = juvenile abundance index survey, SSB = spawning stock biomass survey, tag = participation in coastwide tagging program, Y = compliance standards met, N = compliance standards not met, NA = not applicable, R = recreational, C = commercial

Jurisdiction	Fishery-independent Monitoring		Fishery-dependent Monitoring		Annual reporting Status
	Requirement(s)	Status	Requirement(s)	Status	
ME	JAI	Y	-	NA	Y
NH	-	NA	-	NA	Y
MA	tag	Y	composition, catch & effort (C&R), tag program	Y	Y
RI	-	NA	composition (C&R), catch & effort (R), tag program	Y	Y
CT	-	NA	composition, catch & effort (R)	Y	Y
NY	JAI, SSB, tag	Y	composition, catch & effort (C&R), tag program	Y	Y
NJ	JAI, tag	Y	composition, catch & effort (R)	Y	Y
PA	SSB	Y	-	NA	Y
DE	SSB, tag	Y	composition, catch & effort (C), tag program	Y	Y
MD	JAI, SSB, tag	Y	composition, catch & effort (C&R), tag program	Y	Y
PRFC	-	NA	composition, catch & effort (C&R), tag program	Y	Y
DC	-	NA	-	NA	Y
VA	JAI, SSB, tag	Y	composition, catch & effort (C&R), tag program	Y	Y
NC	JAI, SSB, tag	Y	composition, catch & effort (C&R), tag program	Y	Y

Figure 1. Atlantic striped bass female spawning stock biomass and recruitment, 1982-2017. Source: 2018 Benchmark Stock Assessment.

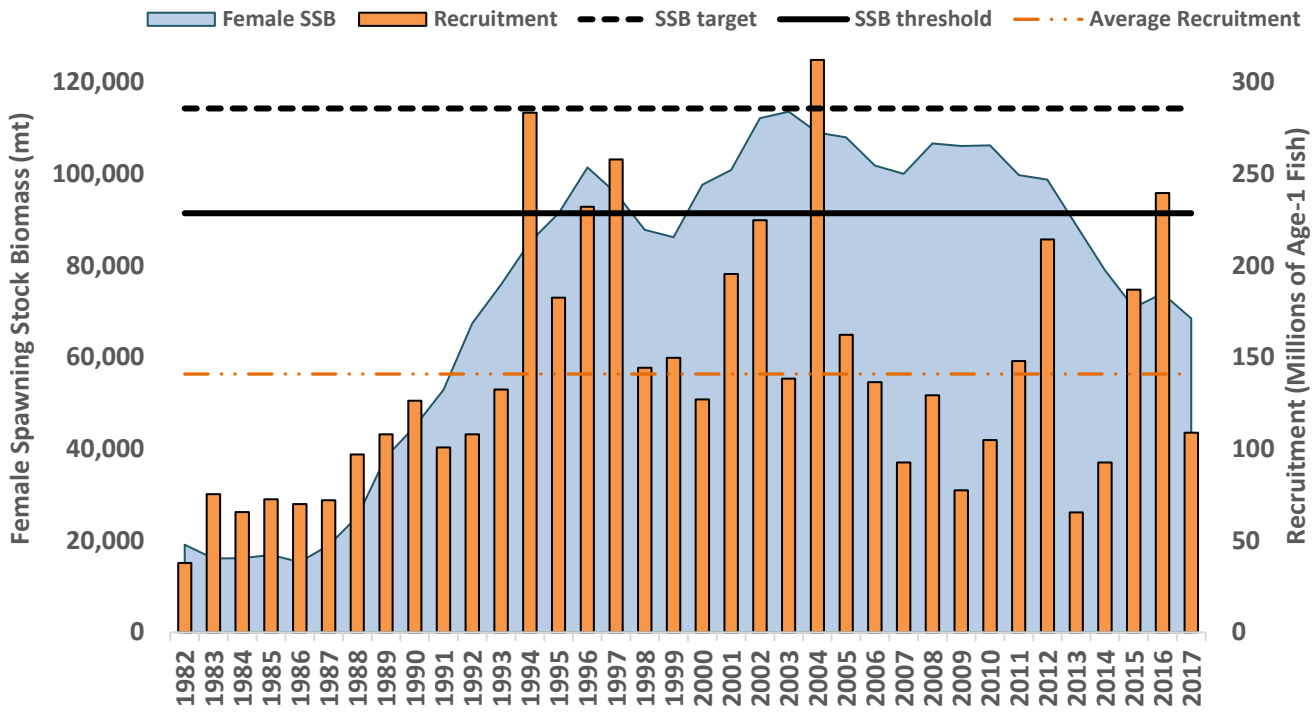


Figure 2. Atlantic striped bass fishing mortality, 1982-2017. Source: 2018 Benchmark Stock Assessment.

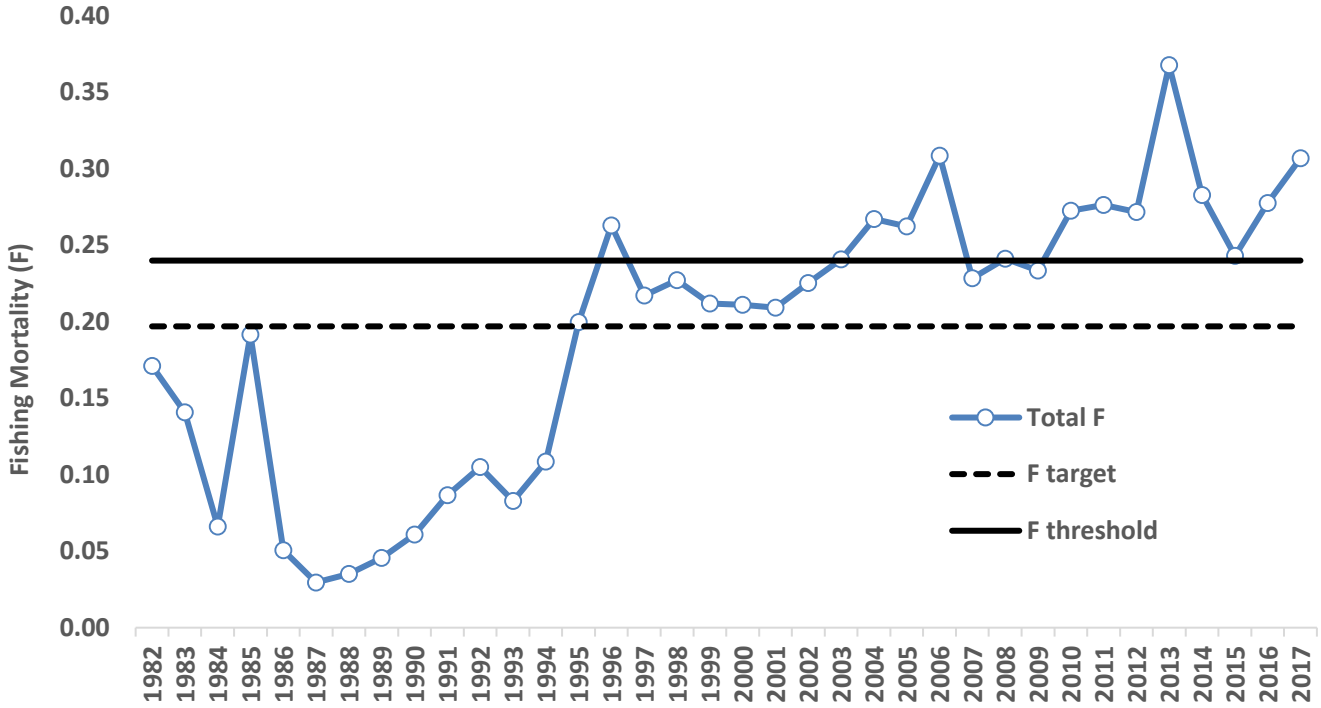


Figure 3. Albemarle Sound-Roanoke River striped bass female spawning stock biomass and recruitment (abundance of age-1), and biological reference points, 1982-2014. Source: Stock Status of Albemarle Sound-Roanoke River Striped bass, 2016.

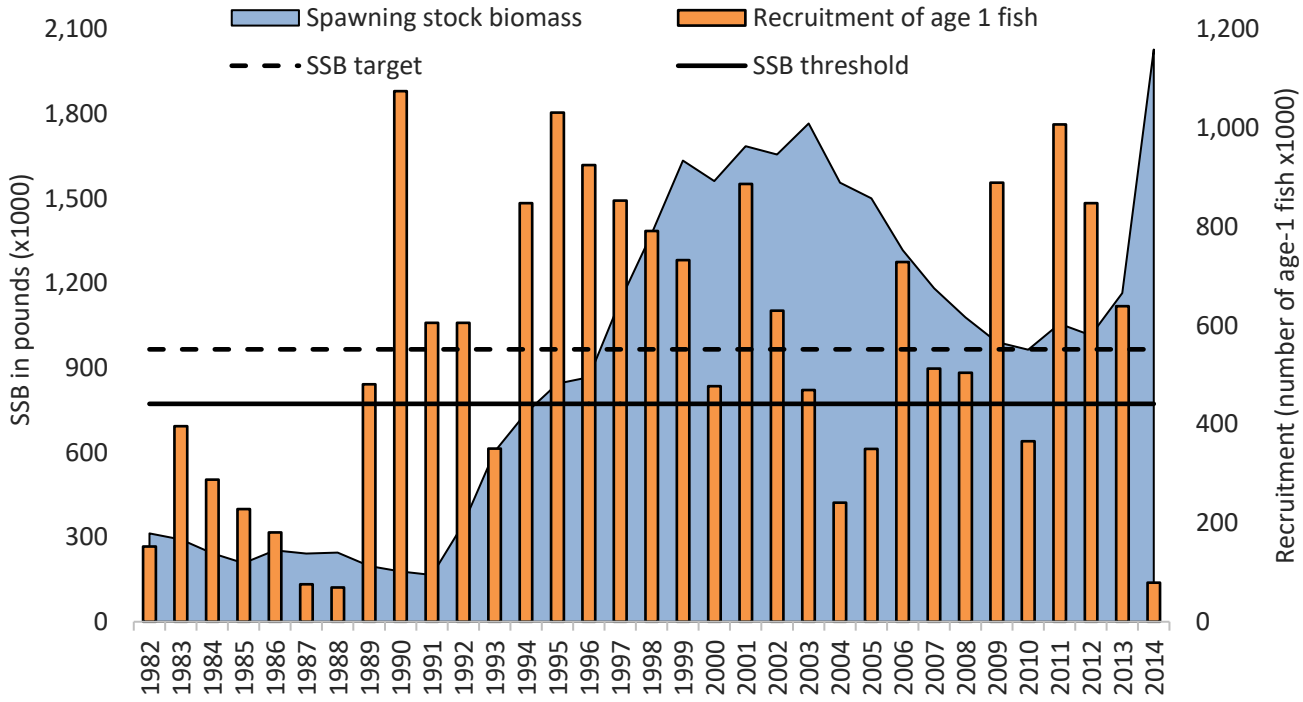


Figure 4. Albemarle Sounds-Roanoke River striped bass fishing mortality (F) estimates, and biological reference points, 1982-2014. Source: Stock Status of Albemarle Sound-Roanoke River Striped bass, 2016.

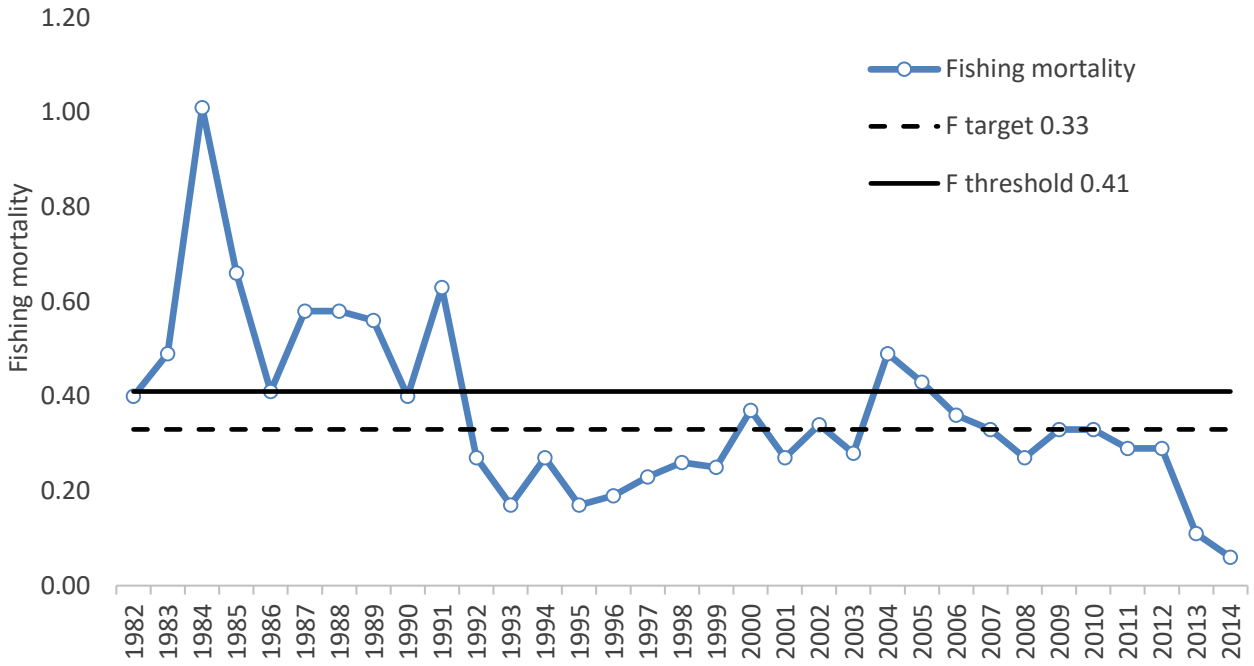


Figure 5. Total striped bass removals by sector in numbers of fish, 1982-2019. Note: Harvest is from ACCSP/MRIP, discards/release mortality is from ASMFC. Estimates exclude inshore harvest from A/R.

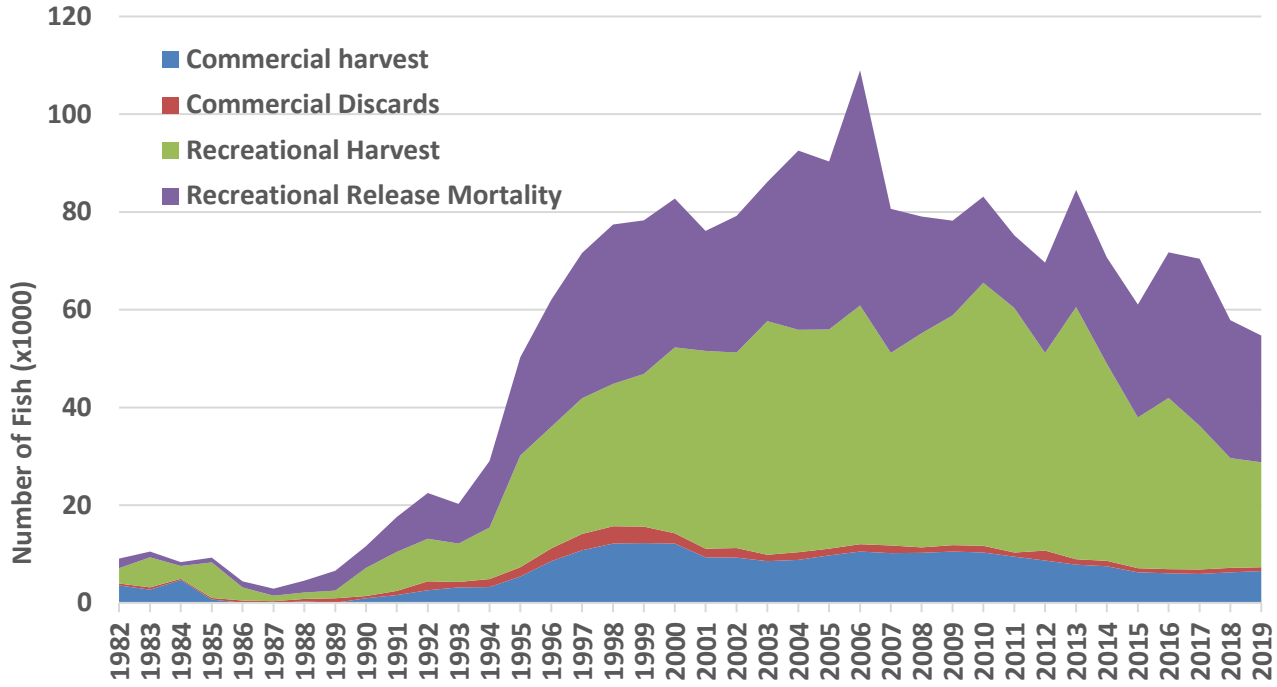


Figure 6. Commercial Atlantic striped bass landings by state in pounds, 1990-2019. Source: ACCSP. Commercial harvest and sale prohibited in ME, NH, CT, and NJ. NC is ocean only.

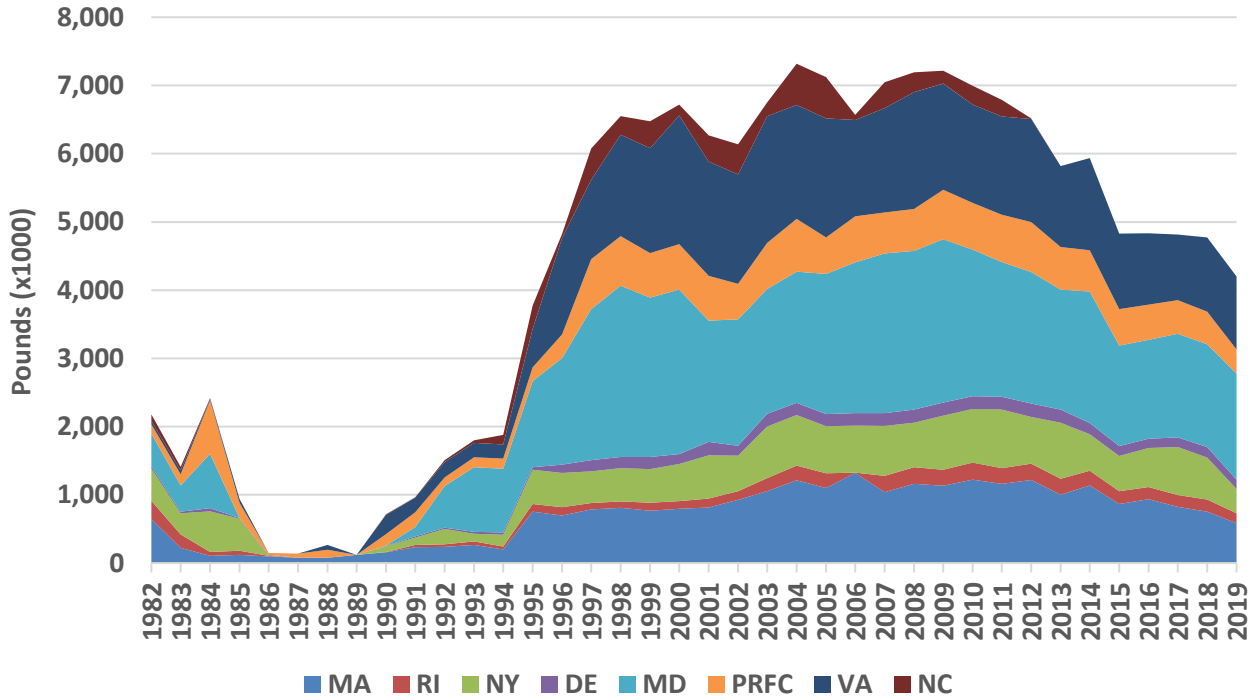


Figure 7. Total recreational catch and the proportion of fish released alive, 1982-2018. Source: MRIP/ASMFC. Estimates exclude inshore harvest from A/R.

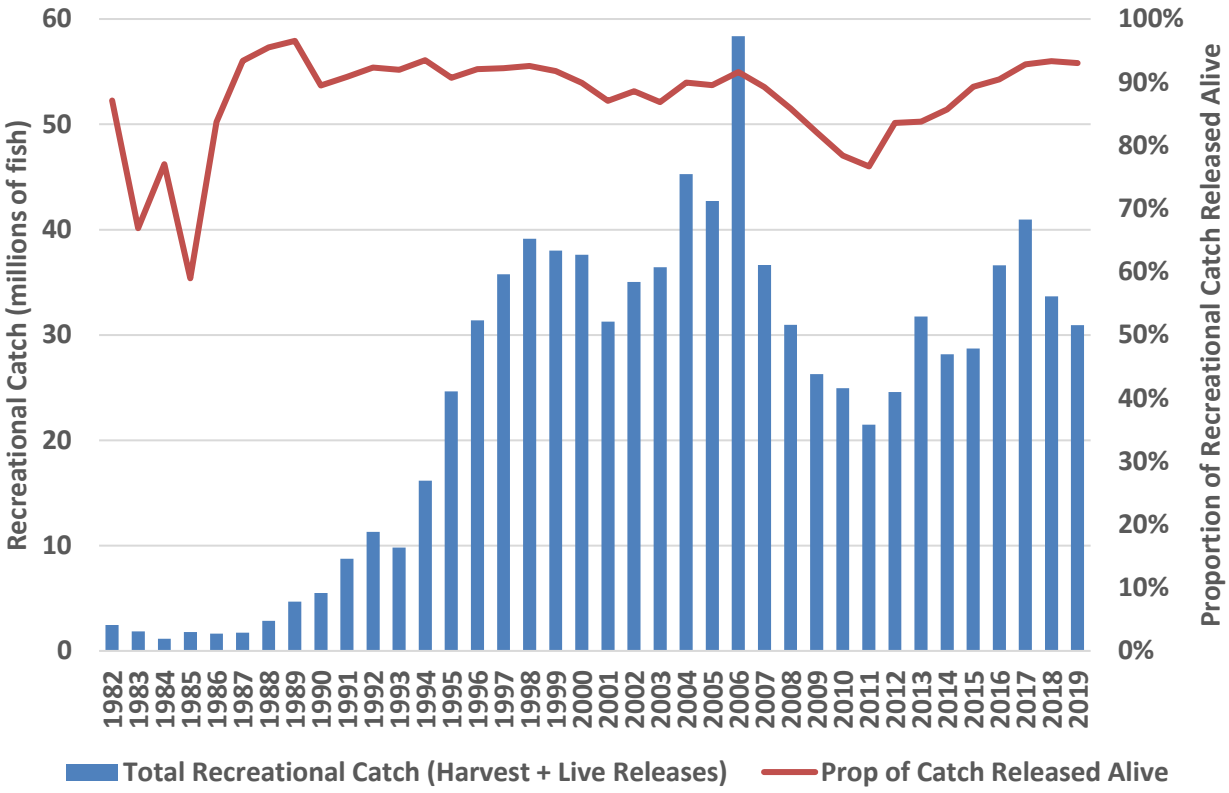
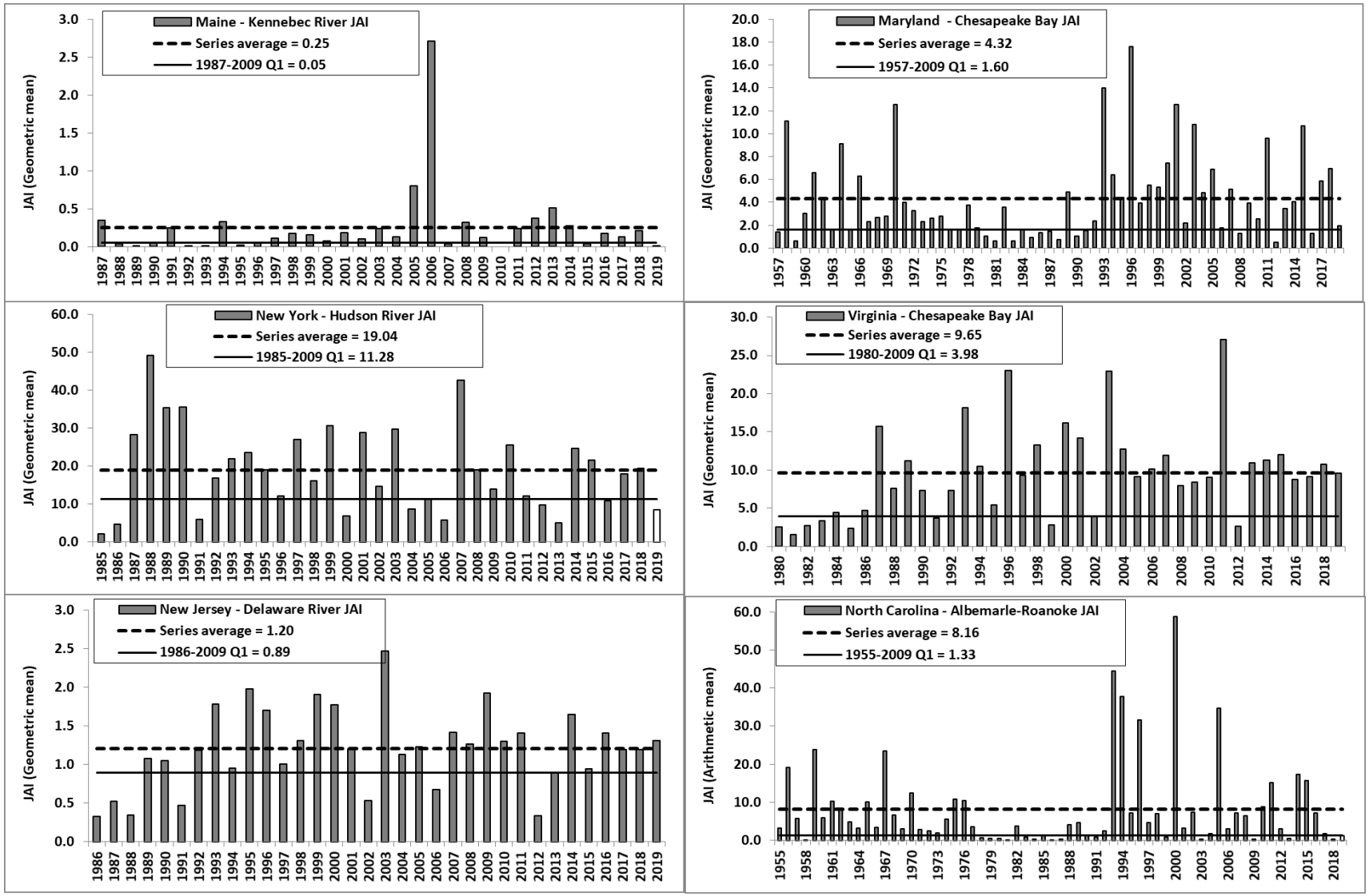


Figure 8. Juvenile abundance index analysis for Maine, New York, Jew Jersey, Maryland, Virginia, and North Carolina, 2019. Source: Annual State Compliance Reports. Q1 = first quartile. An open bar in the last three years indicates a value below the Q1 threshold.



Atlantic States Marine Fisheries Commission

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MEMORANDUM

July 28, 2020

To: **Atlantic Striped Bass Management Board**

From: **Striped Bass Work Group**

RE: **Discussion on Issues that Could be Considered in the Next Management Action**

At its May 2020 meeting, the Atlantic Striped Bass Management Board (Board) agreed to form a work group (WG) of Board members to begin exploring issues that could be included in a public information document should the Board initiate a management action in August. The following volunteers participated on the WG, and were selected to create a balance of different backgrounds, perspectives, and regional representation. Membership changed from the May 20th memo sent to the Board; however, a balance of different perspectives was maintained on the WG.

WG Membership: Martin Gary (PRFC, Co-Chair), Megan Ware (ME, Co-Chair), Ritchie White (NH – Dennis Abbott, proxy), Michael Armstrong (MA), Joe Cimino (NJ), Michael Luisi (MD)

The WG was tasked with compiling and discussing a list of issues related to current concerns with the management of striped bass, with the WG reporting back to the Board in August. An initial list of issues that had been raised during previous Board meetings were compiled, and included: stock rebuilding timeframe, management triggers, biological reference points, fishery goals and objectives, commercial allocation, conservation equivalency, regional management, recreational accountability, and recreational dead discards.

The WG met four times in June and July via webinar to discuss these and any other issues that could be considered in a future management document. Recognizing the WG is not a decision-making body and that management action has not yet been initiated, the WG acknowledged the difference between the WG task and a Plan Development Team, which would be responsible for developing management alternatives. Accordingly, WG discussions focused on identifying challenges or concerns with the current FMP, potential areas of improvement, pros and cons of differing management strategies, and identifying potential areas for feedback from the public.

This memo provides a summary of the WG's discussions, followed by individual meeting summaries organized by meeting date and management topic.

Striped Bass Work Group Report

Executive Summary

In the post moratorium era (ending 1990), the management of Atlantic Striped Bass has largely been a story of success. The species was declared recovered in 1995 and the fishery experienced relative stability well into the 2000's. However, several years of poor recruitment coupled with declining spawning stock biomass beginning around 2006 raised concerns, and resulted in the implementation of coastwide reductions to fishing mortality in 2015 through Addendum IV to the interstate Fisheries Management Plan (FMP). More recently, concerns for the well-being of the stock have been brought forward after the 2018 benchmark stock assessment indicated the stock was overfished and overfishing was occurring. The adoption of Addendum VI to the interstate FMP further reduced fishing mortality coastwide.

Currently, striped bass are managed through Amendment 6 to the FMP (2003). Managers and stakeholders have discussed revising and updating the FMP for a long time as fishery goals and objectives may have changed, new management challenges have emerged, and research has filled many knowledge gaps. Most prominently, the 2018 benchmark stock assessment dramatically changed our understanding of stock status due to the change in MRIP estimates (i.e., recreational catch and harvest estimates are much higher than previously thought, which scaled biomass up, but also resulted in higher fishing mortality estimates throughout the time series and a steeper decline in SSB in recent years). Some other challenges facing striped bass management include an extremely complex fishery due to unequal contributions of the primary stocks (i.e., Hudson River, Delaware Bay, and Chesapeake Bay) to the mixed stock fishery along the Atlantic coast; current data and modeling techniques which limit the Board's ability to implement biologically, socially, and economically sound regulations for all stakeholders; geographically disparate and often conflicting goals and objectives, depending upon where and how fishermen interact with the resource; fisheries which are executed very differently depending on the size and availability of fish, and regional culture; fishing mortality rates which are variable from year to year due to a predominantly recreational fishery with limited effort controls; and challenges associated with MRIP given that, although it provides best available recreational catch estimates on a coastwide scale, state-level and finer scale estimates are uncertain and variable, and limit the Board's ability to execute a flexible management program while maintaining accountability and transparency with the angling public.

The Striped Bass Work Group (WG) discussed a suite of nine issues that have been previously identified by the Board, along with other management topics raised during a series of four meetings. Those issues and topics are described in detail below. Three themes which emerged from the WG's discussion included management stability, flexibility, and regulatory consistency. The scope of the issues discussed by the WG may prove to be a formidable challenge to address comprehensively in a single document. As a result, the WG had a discussion on prioritizing the issues to provide the Board with a sense of what issues might be combined, or addressed by different processes.

Striped Bass Work Group Meeting Summaries

Meeting #1, June 12

Stock Rebuilding (Target and Schedule)

Due to overfished status of the stock, the Board is required to take action to rebuild spawning stock biomass (SSB) to the target level. The FMP requires that the rebuilding timeline cannot exceed 10-years. Based on latest projections, there is a 41% probability of being at or above SSB target in 2029. An assessment update is scheduled for 2021 with data through 2020.

The WG began its discussion with a question regarding the evaluation of management success: how do we incorporate known variability into management decisions and our view of success? Many striped bass management decisions are rooted in stock projections, the results of which are taken at face value. Establishing management regimes that achieve a particular stock condition based on projections is therefore misleading because those decisions don't often recognize their uncertainty. The concept of management uncertainty was first raised during this discussion and was brought up under other topics as well. Comments were made about the Board being criticized for not letting management strategies or regimes play out over long enough periods of time before taking action.

As a result, the theme of management stability emerged on this call. The WG noted that management stability should be thought of as a two-way street where management stays the course in good and bad years (i.e., avoid knee-jerk reactions if fishing mortality (F) goes above or below target for 1-year). The WG also noted that the idea of success is different for many managers and stakeholders. As a result, it is important for the Board to identify sound goals and objectives to define management success.

In its discussion on the rebuilding timeframe, some WG members indicated that a 10-year rebuilding timeframe is a long time, but it may be appropriate considering the biology of striped bass (i.e., late maturing, long lived species, and recruitment is variable and dependent on favorable environmental conditions). Also, when thinking about initiating an amendment, the WG noted the challenge of discussing stock rebuilding, management triggers, and reference points separately since they are all interconnected. If one of these issues is to be part of the amendment, it may be prudent for all three to be included.

Management Triggers

There are five management triggers in Amendment 6. Four are tied to the F and SSB targets and thresholds, and one is based on recruitment failure. If any trigger is reached, the Board is required to take appropriate action. The management triggers are paraphrased below:

1. If F threshold is exceeded, the Board must act to reduce F to F target within 1-year.
2. If SSB is below threshold, the Board must act to rebuild SSB to SSB target (rebuilding timeline not to exceed 10-years).

3. If F target is exceeded for two consecutive years, and SSB is below target in either of those years, the Board must act to reduce F to F target within 1-year.
4. If SSB falls below target for two consecutive years, and F exceeds F target in either of those years, the Board must act to rebuild SSB to SSB target (rebuilding timeline not to exceed 10-years).
5. If any juvenile abundance index (JAI) shows recruitment failure (per Addendum II), the Board will review the cause and determine appropriate action.

There was strong support from WG members to revisit the management triggers. The concept of management stability was the focal point of this discussion. The triggers require constant change, although this frequent action does not recognize that F can be variable under the same management regime. Several WG members commented that management triggers should be developed which require less frequent change, striking a balance between management stability and accountability. Some felt that incorporating more flexibility to the management triggers could give managers the ability to make adjustments that make sense while still being accountable for their management actions.

The differing timeframes that are required by the triggers also generated discussion. For example, there is a 1-year response required for exceeding the F-threshold, while other triggers are based on two consecutive years of SSB and F estimates, and a 3-year timeframe for recruitment failure. These different timeframes are in conflict with the goal of management stability and make the current triggers complicated. Some stakeholders support the 1-year requirement for change while others believe that it promotes 'knee-jerk' reactions that may not always be necessary. It was discussed that there could be a goal to find balance that promotes conservation while also considering the impacts that changes in regulations have on commercial and recreational industries.

Lastly, it was acknowledged that the new MRIP numbers changed the Commission's understanding of stock status, and given the shift in magnitude of removals, the degree of required action and its effects on stakeholders should be considered carefully. Other Board members and the public weighed in at the conclusion of the discussion and asked the following questions:

- What's more important, rebuilding the stock quickly, or mitigating impacts to fishers?
- How should the Board balance the magnitude of change in an action vs. the time to get our targets?

Biological Reference Points

Current biomass reference points are based on historical stock performance. The 1995 estimate of SSB is used as the threshold, and the target is set at 125% of the threshold. The F reference points were redefined in the 2013 benchmark assessment and are designed to achieve the SSB target and threshold, respectively, over the long term. Model-based reference points, such as MSY or SPR, are not available due to current data and modeling limitations, although other

empirical reference points can be considered. The SAS is developing a 2-stock model that incorporates stock composition and migration information, which could produce reasonable SPR-based reference points. However, the model is not ready for management use at this time. The current statistical catch-at-age (SCAA) model does separate removals into two fleets; an ocean fleet and a Chesapeake Bay fleet. These fleet components could be used to explore regional F targets and threshold for the respective regions, although this raises a number of policy and management issues that need to be thought through carefully (e.g., regional management triggers, and the appropriate allocation of F between the Bay and ocean regions).

There was support by several WG members to revisit the reference points, and WG members noted that reference points have been a core issue in striped bass management for a long time. Some WG members acknowledged that 1995 may have been an appropriate reference year at the time; however, improved data and advancements in assessment modeling over the years has changed our understanding of historical stock performance, and 1995 may not be an appropriate reference year anymore (i.e., 2018 benchmark indicates the SSB target has never been achieved). That said, the WG acknowledged that the SSB target may not have been achieved because the F target has not been maintained for a significant period of time (i.e., F is variable, and has been above threshold most years going back to the early 2000s).

The WG discussed challenges of implementing an equitable management program for all regions and user groups due to ongoing data and modeling limitations (i.e., management is currently operating under a coastwide assessment model, but in reality there are multiple stocks, each with unique biological characteristics and contributions to the coastwide population). The current assessment fails to capture the complexities of stock structure and varying rates of removals from the different stocks, thus adding uncertainty to aspects of striped bass management and modeling work. This can lead to inefficient and possibly faulty management decisions. Accordingly, the WG strongly supported continued development of the 2-stock assessment model and regional reference points. Lastly, WG members commented that reference points for striped bass should reflect clear management goals and objectives.

Pros and Cons of different reference point strategies were discussed under this topic and are summarized below:

Topic	Pros	Cons
Current Reference Points	Represent the middle ground of conflicting management goals and objectives (i.e., the middle of who/what we are managing for)	The SSB target may not be achievable based on current state of ecosystem and understanding of past stock performance
	Empirical-based reference points are based on verifiable observation or experience rather than theory	Hard to manage separate stocks of the population and achieve different

	Appears to meet the goals of certain recreational angler communities that see 1995 reference year as an appropriate target level	regional goals under a coastwide reference point
2-Stock Model	Incorporates stock composition and migration information and can provide a tool for regional management Allows to manage more accurately, but perhaps less conservatively as well	Not currently available for management use, and will require a lot of time and resources to fully develop
2-fleet, non-migration model	Improvement over previous 3-fleet model; models removals from the ocean and Chesapeake Bay fisheries separately Provides a tool for regional management	F doesn't capture true complexity of the fisheries and population dynamics Regional management raises challenging questions about how to allocate F between the two fleets

Meeting #2, June 21

Goals and Objectives

As a part of considering fishery goals and objectives, the WG reviewed existing goals and objectives in Amendment 6 as well as results from a Board and Advisory Panel (AP) questionnaire, or survey in 2018. The primary goal of the survey was to solicit guidance from the Board regarding the type of reference points to pursue for the 2018 benchmark, but also to solicit Board and AP member satisfaction with the existing management program and understand what is most valued in the striped bass fishery (e.g. economically viable fisheries, broad age structure, maintaining SSB at or above the target, etc). Results of the survey were split, and there was no clear majority in terms of satisfaction with striped bass management; this result likely reflected the diverse set of stakeholders in the striped bass fishery.

In light of the survey results, the WG discussed that a potential goal of the Striped Bass FMP should be to improve relationships between the various groups, whether that be between the commercial and recreational sectors or between the coastal states and the Chesapeake Bay region. Others noted that while striped bass is currently managed as a single stock, it is important to recognize the regional differences in the fishery which results in different visions,

priorities, and management practices. As a result, management goals and objectives should be broad and not constraining over time.

The WG also brainstormed several goals and objectives which may be missing from the existing list in Amendment 6. These included:

- Reflecting stock complexity in the assessment science
- Consistent management and monitoring
- Recognizing potential impacts of climate change
- Improving catch accounting for the recreational sector
- Promoting "responsible fishing" practices and stewardship (through things such as circle hooks)

The WG did not highlight any existing goals and objectives in Amendment 6 which should be eliminated and instead noted that many are still relevant. These include the reference to maintaining essential habitat in the Amendment 6 goal, the aim of management stability (Objective 6), and the desire to balance coastwide consistency with flexibility (Objective 3).

Commercial Allocation

As part of the WG's discussion on commercial allocation, ASMFC staff provided a retrospective on striped bass commercial allocations. This included a review of Amendment 6 which restored coastal commercial allocations to 100% of average landings from 1972-1979, except for Delaware which was maintained at its 2002 level. In contrast, Amendment 6 set the Chesapeake Bay commercial allocations based on F so that quotas scaled annually with biomass. Since then, commercial allocations have been reduced in Addenda IV and VI, with the Chesapeake Bay allocations switching to a poundage value (as opposed to being based on an F-rate).

WG members expressed concern that commercial allocations are a poundage not a percentage, and as a result are not inherently linked to the status of the stock. This means that changes to the commercial allocations must occur through an Addendum or Amendment. In contrast, WG members noted that other FMPs allocate commercial quotas as a percentage of a total allowable catch or annual catch limit, which means that allocations scale as biomass increases or decreases. One WG members noted that the Chesapeake Bay region originally had a commercial allocation based on an F-rate in Amendment 6 but that this was lost in Addendum 4 when quota reductions were implemented as a 20.5% cut from catch in a single year (2012). This WG member noted that, as a result, they lost the ability to manage based on exploitable biomass, which means making reductions when biomass is low but also providing for increases when stock biomass is high.

WG members also noted that different criteria have been applied to different regions and states. For example, Delaware's quota is based on a different time-period than other states. Further, while the 1972-1979 time period has been used for a long time, there were questions as to whether this is still an appropriate timeframe, especially given potential concerns about

the accuracy of striped bass harvest reporting during this time. The WG noted that, should an Amendment be initiated, it would be helpful to understand when states required reporting in the striped bass commercial fishery and the degree of confidence in historical landings records.

The WG also discussed potential influence of climate change on the stock and how this could impact commercial allocations. Some WG members noted that not all states are meeting their quotas and that could be indicative of climate change impacts. Others noted that populations seem to be shifting into federal waters and this may be impacting state's ability to fully harvest their quotas.

Finally, WG members noted that a general challenge with the commercial fishery is that it only accounts for ~10% of total annual removals. However, it is subject to some of the stricter effort controls. This speaks to the ability to control catch and effort in the striped bass fishery as a whole.

Conservation Equivalency

The WG identified some pros and cons of conservation equivalency (CE) programs. Pros included having the flexibility for states to craft regulations that match its fishery and needs, and the ability for a single FMP to consider the regional differences in the fishery. Cons included reduced consistency between states; greater imprecision in the data used to evaluate the impact of bag limits, size limits, and seasons; and (in Addendum VI) a decrease of the overall percent reduction.

During its discussion, the WG reflected on the Addendum VI process. Some WG members noted that the result of the Addendum VI CE approval process was that the sum of the parts did not equal the whole; this likely reflected the Board's decision to require CE proposals to achieve an 18% reduction as opposed to the reduction projected to be achieved by states under the coastwide measures. Other WG members commented that Addendum VI resulted in several states taking on the brunt of the reduction and so CE was a way for states to remedy a situation where they felt they were being unfairly limited. Others noted that the Addendum VI CE process resulted in a one-way valve, where states (through CE) ultimately adopted regulations which resulted in smaller reductions as opposed to other states also using it to implement measures that were more restrictive than the FMP. As a note, a CE proposal and Board action is not required for a state to be more restrictive than the FMP.

Moving forward, one WG member said that it was critical for the purpose of CE to be identified, including a better definition of how and when CE is applied. This WG member felt that a clear biological benefit should be demonstrated in a CE proposal. Other WG members felt it was important to modify but not end the CE program, as a way to increase trust in the program. This could include greater guidelines on the CE program or a different structure. Some ideas included:

- Restricting CE proposals to certain times, abundances, or stock status, and not allowing CE during a period of stock rebuilding

- Greater boundaries on the management tools that can be used, and whether reductions in the recreational and commercial can be "swapped" within a state
- Different guidelines for the recreational and commercial sector given differences in the data uncertainty and accountability measures
- Limit the number of CE options a state can submit for technical review and Board approval

The WG also talked about accountability with implemented CE programs. One WG member thought that a CE program should be amended so that if, after the first year, the CE measures do not achieve the expected outcome, an accountability measure is tripped. Another WG member noted that accountability is hard because the CE process moves away from coastwide accounting to state-by-state accounting, which results in increased imprecision in the data and greater uncertainty in the anticipated outcome. Another WG member asked how accountability would work if year class strength and availability differ from year to year and between regions. This WG member also noted that all states should be held accountable to the management program, not just CE states.

Meeting #3, July 12

Regional management

The WGs discussion on regional management touched upon several different ideas: regional management which is supported by stock specific reference points, regional management that looks at producer vs. coastal areas, and regional management in which latitudinal areas have uniform regulations.

The WG recognized that regional management with distinct reference points is still a goal for this species. As noted previously, the SAS developed a 2-stock model during the 2018 benchmark, which brought the concept of multiple reference points further along than the previous assessment, but data limitations prevented peer review endorsement for management purposes. Therefore, the WG discussed regional management approaches with one set of coast-wide biological reference points continuing into the near future.

The WG and several members of the audience discussed the importance of producer areas and their unique consideration in management due to the smaller size of fish. Some noted that Delaware Bay and the Hudson River are also producer areas; however, they are managed differently than the Chesapeake Bay. There were questions as to why this is. Other WG members commented that they consider regional management to be focused on a grouping of states rather than producer vs. coastal areas and perhaps regional management doesn't have a place in striped bass management.

Next, the WG discussed regional management in terms of discrete areas having matching regulations. For example, while some areas have achieved regulatory consistency via Addendum VI, other areas such as Delaware Bay and Chesapeake Bay have disparate measures

across jurisdictions. This lead into a discussion about the connection between consistent regulations and the current CE program. One WG member noted that when a state implements a CE measure, it has an impact on adjacent states. As a result, regional management may have a place in the striped bass fish through the CE process. Others noted that if CE is something the Board wishes to include in an amendment, there can be a review of the regional approach to regulations (compared to one coastwide measure).

Recreational accountability

At the onset of the discussion, it was acknowledged that some members of the Board and public may be using the terms 'accountability' and 'accounting' interchangeably. There is widespread, perhaps universal, desire for more accurate recreational harvest estimates. Recreational harvest accounts for 90% of annual removals, and harvest varies year to year based on availability and effort. Harvest estimates are also subject to variability in the MRIP survey, making it difficult to parse out what impact management efforts may have when regulations are changed as the variabilities are confounded.

Regarding accountability, the WG noted that in other species' FMPs, this topic has been discussed mainly as payback for overages of an annual harvest target. Several members of the WG expressed deep concern over doing this based on point estimates provided by MRIP, especially at the state level where uncertainty in the data is higher. As a result, one WG member noted that if recreational accountability is pursued, it should be at a regional or aggregate level to reduce uncertainty in the data. There was also discussion that striped bass management should not follow in the footsteps of federal FMPs such as summer flounder and black sea bass where there are regulatory changes every year to try to match harvest targets. It was noted that this was also a concern expressed at several public hearings for Addendum VI.

WG members expressed concern over the lack of precision of MRIP estimates and questioned what modifications would be needed to achieve greater precision. One WG member noted that PRFC and DC do not have MRIP estimates, which could complicate discussions on recreational accountability. The WG did not put forward the notion that better accounting (e.g., mandatory recreational reporting) should be pursued at this time but did acknowledge the challenges associated with MRIP estimates. The WG also discussed impacts of year class strength on catch and harvest, and managers' inability to predict or control effort. One WG member noted that it is difficult to have fishermen follow the rules and then be faced with further reductions. Another WG member noted that we need to improve the incorporation of year class strength, and associated changes in effort, in our estimates.

Recreational Dead Discards

Multiple members of the WG indicated that recreational dead discards may be the single most important issue at this time, and addressing (or reducing discards) is the most important action

that can be taken going forward. Many WG members pointed to the fact that recreational discards accounted for just under 50% of the fishing mortality as basis for the critical need to address this issue. Others noted that, particularly in states with primarily catch and release fisheries, the Board is running out of ways to control removals in the fishery.

The WG acknowledged that angler behavior varies significantly on both a local and regional level. In some parts of New England, many fish are released, while in Chesapeake Bay, anglers often wish to keep their allowable catch. The WG also touched on the possibility of determining regional differences in release mortality, and the need to collect better data on this topic.

There was a lengthy discussion on what addressing discard mortality could mean. Some noted that other regulatory measures (in addition to the use of circle hooks) may still exist such as banning gaffing or the use of treble hooks. The WG also discussed potential benefits of reaching out to gear manufacturers. Many WG members pointed to the importance of angler education, and how to communicate with the recreational sector to apply best practices and emerging research. While there was an acknowledgement that angler education is not necessarily a regulation, including the topic of recreational dead discards in a future management document raises angler awareness of the issue.

Overall, while the scale and geographic scope of this issue makes addressing it a daunting challenge, the WG clearly felt that the pursuit to lower recreational dead discards would be worthy of the time and resources invested.

Meeting #4, July 21, 2020

Management Stability, Flexibility, and Regulatory Consistency

At the WG's last meeting, the group discussed three themes which emerged through previous discussion: management stability, flexibility, and regulatory consistency. The WG acknowledged that there are inherent elements in these themes which are in harmony with one another, and others which are in conflict. For example, regulatory consistency and stability can be easily linked (regulatory steadiness in both space and time) while flexibility is a somewhat conflicting theme. That said, using an analogy of a Venn diagram, the WG acknowledged there is likely a point of balance between all of these elements; it is the amount of overlap between these three elements which makes attaining that balance more or less difficult. WG members also acknowledged that these themes are not unique to striped bass; several other species management boards and the federal Councils are also grappling with how to balance these themes.

When speaking of flexibility, one WG member noted that because the striped bass FMP is not jointly managed with a federal Council, there is more opportunity for flexibility in the management of the species. This WG member felt it was important not to lose sight of this opportunity for flexibility outside of a federal FMP. Another WG member noted that flexibility

can be incorporated into a stable and consistent regulatory program by including flexibility as part of a management action, as opposed to allowing for flexibility after a management decision (akin to how CE currently works).

Overall, the WG felt that the themes of stability, flexibility, and consistency could be guiding principles for future management changes.

Other Topic: Protecting Larger, Older Fish

The WG also used the last meeting to discuss any topics which were not included in the specific list of items developed by the Board. One WG member brought up the topic of protecting larger, older striped bass. This WG member noted that stakeholders often talk about the need to protect older striped bass since they can produce more eggs and thus more recruits, and that larger fish are often "revered" in the fishery. He noted that many states did not have a maximum size limit until the latest management action (Addendum VI). He also noted that an objective of Amendment 6 is to ensure a broad age structure in the striped bass population and wondered if this conflicts with the desire to also protect older fish.

The WG discussed whether having a broad age structure and protecting older fish are compatible objectives. One WG member noted that the maximum size limit in Addendum VI provides greater protection to older, larger fish but that the creation of a slot limit can also result in fewer striped bass reaching a larger size. It was also noted that discard mortality, which is almost half of fishing mortality, is pervasive across all sizes of striped bass. The WG asked Stock Assessment Team Lead, Dr. Katie Drew, about the tension between a broad age structure and the protection of older fish from both a regulatory and stock assessment perspective. She noted that the two topics are linked because it is hard to protect older, larger fish without a broad age structure; however, achieving a large number of older fish is all about fishing effort and protecting a given cohort through time until it reaches older ages (e.g., you cannot create new age-10 fish; the number of age-10 fish in a population reflects the fishing effort placed on that cohort throughout its life).

Several WG members supported continued discussion on this topic by the Board. One WG member noted that, in northern New England, many anglers seem to support the maximum size limit as a way to protect these older fish. Another WG member noted that under Addendum VI, most states now have a maximum size limit and considering a protection for older fish across all states would get at the theme of regulatory consistency.

Prioritization of Topics in a Potential Management Document

Next, the WG discussed potentially prioritizing the list of management topics discussed over the first three webinars. This conversation was prompted by the recognition that including nine complex and controversial topics in a single management document may result in a slow and complicated regulatory process. As a result, it may behoove the Board to break up the topics into different management documents.

To help prompt this discussion, WG members decided to anonymously rank the nine topics discussed using Survey Monkey. Given the topic of 'protecting older, larger fish' was discussed on the fourth call, it was not included in the ranking. WG Co-Chairs noted that giving a topic a lower ranking does not mean it is not important. Further, it was noted that the ranking was not intended to be decisional, merely a way to facilitate a conversation.

Results of the anonymous ranking were shown to the WG on the webinar (Figure 1, Table 1). Topics with a higher value in Figure 1 were given a higher overall ranking by the WG. When looking at the results, it is important to note that respondents only included WG members, so the sample size is small.

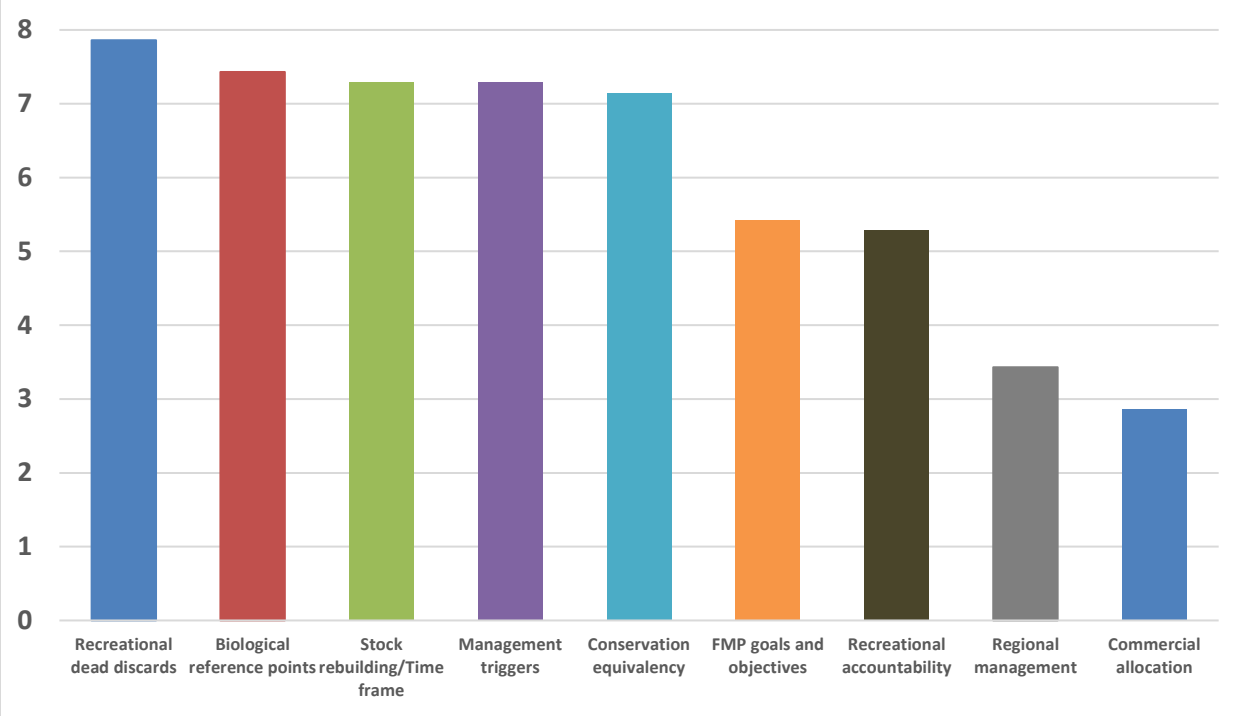


Figure 1: Results of the prioritization survey by WG members. Topics with a higher value (i.e. those on the left) received a higher overall ranking.

Table 1: Results of the prioritization survey by WG members. The table shows how WG members ranked each of the different topics. For example, reading across the first row, two WG members ranked recreational dead discards as the highest priority, two WG members ranked it as the second highest priority, one WG member ranked it as the fourth highest priority, one WG member ranked it as the fifth highest priority, and one WG member ranked it as the seventh highest priority.

Management Topics	Overall Ranking	Individual Responses								
		1	2	3	4	5	6	7	8	9
Recreational dead discards	1	2	2		1	1		1		
Biological reference points	2	2		1	2	1		1		
Stock rebuilding/Time frame	3	1	1	2	1	1			1	
Management triggers	4		3	1	1		1	1		
Conservation equivalency	5	2	1	1			2		1	
FMP goals and objectives	6				2	2	2			1
Recreational accountability	7			2		1		3	1	
Regional management	8						2	1	2	2
Commercial allocation	9					1			2	4

Overall, the survey results show the WG ranked recreational dead discards as the highest priority, followed closely by reference points, stock rebuilding, management triggers, and conservation equivalency. FMP goals and objectives and recreational accountability were ranked in the middle, and regional management and commercial allocation received the lowest rankings. Table 1 shows that there was variability among individual WG member responses. Several WG members commented that all the topics are important but that WG conversations had impacted their ranking. Others noted that while FMP Goals and Objectives were ranked sixth, perhaps because it is not as “glamorous” a topic, it is still critically important to review these if a management document is initiated. Others noted that some topics are related and can be combined. For example, regional management may be linked to conservation equivalency.

Finally, the WG had a brief discussion on which management topics can be completed in an addendum versus an amendment. Commission staff indicated that except for goals and objectives, all of the topics discussed can be addressed in an addendum. However, an amendment can sometimes be more appropriate if the topics are controversial and/or if there are a large number of topics being addressed. Generally, WG members commented that given the breadth of issues, an amendment was potentially a better fit because it provides more opportunity for public discourse, and more time to think through the issues. However, it was also noted that an amendment is a slower regulatory process than an addendum. The WG did not provide a recommendation on whether an amendment or an addendum is more appropriate given this was not part of their specific charge.

Max Appelman

From: BRIAN LIPSKY <BRIAN.LIPSKY@Longandfoster.com>
Sent: Wednesday, July 22, 2020 7:15 PM
To: Max Appelman
Subject: [External] Stiped Bass Management

Mr. Appelman,

We respectfully demand that the agencies charged with striped bass management make designing and funding a comprehensive study on striped bass mortality in the Chesapeake Bay, especially catch-and-release mortality, a top priority. Businesses depending on recreational fishing, the lives of recreational anglers, and the health of the striped bass population up and down the coast from North Carolina to Maine are being adversely affected by a current lack of science and poor management decisions, and this must be remedied immediately.

Sincerely,

Brian C. Lipsky

1075 Tooker Avenue
West Babylon, NY 11704
July 28, 2020

David V. D. Borden, Chair
Atlantic Striped Bass Management Board
Atlantic States Marine Fisheries Commission
1050 N. Highland St., Suite 200 A-N
Arlington, VA 22201-0740

Dear Mr. Borden:

The Atlantic States Marine Fisheries Commission's Atlantic Striped Bass Management Board ("Management Board") will be addressing two postponed motions at its August meeting, one addressing state accountability for failures to adequately reduce striped bass fishing mortality, one addressing whether the Management Board should move forward on a new Amendment 7 to the striped bass management plan.

I am taking this opportunity to comment on both issues.

I

STATES WHICH ELECT CONSERVATION-EQUIVALENT MANAGEMENT MEASURES SHOULD BE HELD ACCOUNTABLE WHEN THOSE MEASURES FAIL TO MEET THE REQUIRED FISHING MORTALITY REDUCTION

Due to the impacts of COVID-19 on the Marine Recreational Information Program ("MRIP"), this issue has probably been rendered academic, as 2020 landings data will probably be inadequate to assess whether state management measures were able to achieve the desired reductions. However, because the issue will probably arise again, perhaps in discussions related to any proposed Amendment 7 to the management plan, I provide the following comments.

Striped bass do not respect state boundaries. They engage in long coastwide migrations, transiting the waters of many states as they move north in the spring and south in the fall. Under such circumstances, a unified set of regulations, applicable everywhere along the migration route, is the most efficient and effective way to manage the species.

However, the Atlantic States Marine Fisheries Commission's Interstate Fisheries Management Program Charter ("Charter") explicitly provides for conservation equivalency, which allows states to adopt alternate measures ***if*** such measures will have the same conservation effect as the management measures recommended by a management board.

Unfortunately, the impact of regulations is difficult to predict in advance, as many different factors, including angler behavior, are out of the control of the Atlantic States Marine Fisheries Commission ("ASMFC"). The best that the Management Board can do is to adopt measures that, on paper, appear adequate to do the job, and then amend such measures should they not do so.

Because of such uncertainty, states that adopt the Management Board's recommended measures should not face any potential sanction should they not meet the fishing mortality, landings, or other target. Any such failure is a collective failure of the Management Board, and needs to be addressed on a collective, coastwide basis. And as any Management Board member ought to know, MRIP is most accurate when used on a coastwide basis, incorporating as many angler intercepts as practicable th, so coastwide measures have the greatest likelihood of success. Trying to break down MRIP data by state, wave, and/or sector will inevitably reduce its precision and increase the likelihood for significant error.

When a state adopts conservation equivalent measures, that state is knowingly adopting measures based on data that is significantly less precise than the data underlying the coastwide measures, and so data more likely to lead to management measures that do not achieve their intended goal. If a state's supposedly conservation equivalent management measures fail to achieve the desired reduction in fishing mortality, that failure does belongs to the state. However, such failed state regulations undercut the effectiveness of the entire fishery management plan.

Thus, it makes sense to hold states accountable for their failures. While one must assume that a state adopts conservation equivalent measures in good faith, and intends them to meet the common objective, a state is not acting in good faith when it discovers that its supposedly conservation equivalent regulations are not "equivalent" in fact, and does nothing to correct the situation.

After Addendum IV required that the Chesapeake Bay jurisdictions reduce fishing mortality by 20.5%, compared to fishing mortality in 2012, the states could be excused for miscalculating the increase in angler effort in 2015, which led not to a reduction, but to a more than 50% increase in F. However, there can be no excuse for allowing Maryland, in particular, to allow its anglers to continue to fish at that and even higher rates for an additional four years, a level of fishing mortality that may well have harmed the very 2011 year class that Addendum IV was supposed to protect.

Allowing such excessive fishing mortality to continue, and the inadequate "conservation equivalent" regulations to remain in place through 2019, was inexcusable, a travesty for which both Maryland and the entire Management Board share blame.

The only way to prevent such travesties from reoccurring is to create a disincentive for states to maintain supposedly conservation equivalent regulations that do not achieve management goals, and which shift the burden of conservation onto other states' shoulders.

It would be reasonable to merely require states, in the first instance, to revise their conservation equivalent management measures for the following year, so that they achieve the intended reductions. However, serial failures, particularly at a time when the striped bass stock is overfished, should carry stiffer penalties, including at a minimum a pound-for-pound/fish-for-fish payback of any overage when conservation equivalent regulations fail to meet management goals in two consecutive years.

States may argue that MRIP data, particularly when used at the state level, lacks the precision needed to impose such paybacks. However, if a state makes the argument that the MRIP state-level data is

adequate to support a conservation equivalent regulation, the same data must be deemed adequate to demonstrate that a supposedly equivalent set of management measures has not met its management goals. A state should not be able to reap the benefits of equivalent regulations while eschewing the consequences of getting such regulations wrong.

II

WHAT THE MANAGEMENT BOARD SHOULD CONSIDER IN ANY PROPOSED AMENDMENT 7

Given that the Fishery Management Plan Coordinator has already informed the Management Board that most changes to the striped bass management plan can be made in an addendum, and that an amendment would only be needed to change the goals and objectives of such plan, the need for a new Amendment 7 is not immediately obvious. However, many Management Board members seem intent on moving forward with such amendment, and assuming that they will prevail when the postponed motion is finally put up for a vote, I make the following comments.

I apologize in advance if any such comments are redundant with, or in direct opposition to, the recommendations contained in the Work Group report, but given that such report will not be available until the Supplementary Materials are released, I must put together my comments without benefit of the Work Group's thoughts.

To begin, I sincerely recommend that the existing goals and objectives of the management plan not be changed. The "long-term maintenance of a broad age structure," endeavoring to "maintain stock size at or above the target female spawning stock biomass," and managing "fishing mortality to maintain an age structure that provides adequate spawning potential to sustain long-term abundance" represent the only rational way to manage a species such as striped bass, which regularly experiences wide swings in recruitment, is very dependent upon having favorable spawning conditions in natal rivers, and has been known to experience below-average recruitment for periods that can extend for a decade or more.

There is always a temptation to favor the short-term benefits that a higher fishing mortality rate, and lower biomass target, might bring. But given the striped bass' life history, the price of such short-term benefits will inevitably be a perilous decline in the stock when a period of sub-par recruitment occurs, and the resultant social and economic costs of such decline will more than offset the benefits of prior excess.

A well-stratified age and size structure, in a spawning stock that contains adequate numbers of older, more fecund females, is a critical component of a sustainable striped bass population. Such structure, which includes significant numbers of older and larger fish, provides a buffer against consecutive sub-par year classes that see few younger females entering the spawning stock. Increasing the fishing mortality rate, at the expense of the older females, is not a viable long-term management strategy.

Having said that, there is one objective of the plan that needs changing, and lies at the root of many management problems. That is the objective to "Adopt a long-term management regime that minimizes or eliminates the need to make annual changes or modifications to management measures."

There is no question that stability in regulations is a desirable goal. However, a stable striped bass stock should take priority over stable regulations. The Management Board's reluctance to amend management measures in the face of declining recruitment, unexpectedly high mortality, or similar unforeseen circumstances, has not served the striped bass stock well. That might be best seen in the proceedings of the November 2011 Management Board meeting when, despite declining recruitment and an updated stock assessment which warned that the female spawning stock biomass would fall below threshold by 2017, the Management Board decided to take no action because the management triggers had not ***yet*** been tripped.

With respect to management triggers, the triggers adopted in Amendment 6 should be maintained in any new amendment. However, I make that recommendation in the expectation that the Management Board will actually pay attention to such triggers, and follow the dictates of the management plan when a trigger is tripped.

I, and many other striped bass anglers, were dismayed in 2014 when, after information contained in the 2012 benchmark assessment tripped Management Trigger 4, the Management Board failed to adopt a 10-year rebuilding plan, despite the seemingly mandatory language of Amendment 6. We were less surprised, but no less dismayed, when the latest benchmark assessment's finding that the stock was overfished tripped Management Trigger 2, but no 10-year rebuilding plan was initiated.

When the Management Board fails to comply with clear and explicit provisions of its own management plan, it not only fails its duty to the striped bass; it breaches its covenant with stakeholders and with the greater public, who not unreasonably expect that the Management Board will actually perform the tasks that it has publicly stated it will do. I would advise that, if the Management Board has no intention of taking a particular action, it should not raise false hopes by including such action in the management plan.

Over the years, the Management Board has demonstrated a clear bias toward maintaining or increasing harvest, and avoiding harvest reductions. That bias has been demonstrated in its willingness to approve state proposals that do not comply with the terms of the management plan (something that New Hampshire's Legislative Appointee, Dennis Abbott, at the October 2008 Management Board meeting, to suggest that "striped bass management as becoming death by thousand cuts").

Such pro-harvest bias, and a failure to fully implement mandated management measures, has led many anglers to question the Management Board's willingness to be guided by the science and the Charter's injunctions to end overfishing and rebuild overfished stocks, and to act as responsible stewards of the striped bass resource. Its failure to adopt mandated rebuilding plans, not just once, but twice, when the relevant management triggers were tripped bring its willingness to maintain a fishery that is sustainable in the long term into question.

Many Management Board members may have been surprised when Maine's Pat Kelliher said, at the February 2020 meeting, that

> At a recent public hearing just held last week in Maine...I attended just to listen in to understand kind of where our constituents in Maine are. Frankly, it wasn't even a conversation about our regulations, it was a long drawn out conversation, very editorialized about ***the failures of this body***.

> ...There were tremendous opposition to [conservation equivalency], the intent of how they're being used, ***failures of the Board across the spectrum***.
>
> The fact that ***we need to be in a rebuilding mode, and we're not moving in that direction***, the points that have just been brought up that we will not achieve the 18 percent reduction, and a question from Mr. Luisi, are state's [*sic*] willing to do more? I can tell you the ***people in that public hearing in the state of Maine were willing to do much more, including moratorium conversations***, which just kind of shocked me.
>
> I think those are coming up based on their ***concerns that we are not going to do the right thing for the species***... [emphasis added]

However, few active striped bass fishermen would have been surprised by such comments at all, because they reflect a common view within the striped bass fishery: A large percentage of striped bass anglers feel that Management Board has allowed the stock to become overfished again, because, in the face of opposition from a small minority of stakeholders, it lacked the political will to impose needed landings reductions even when the science, and the language of the management plan itself, clearly indicated that such reductions should occur.

While it is true that new MRIP data, not available until 2018, contributed to the conclusion that the stock was overfished, and that overfishing was occurring, the data available at the time of the 2011 stock assessment update was enough to signal that the stock would become overfished by 2017. Despite that clear signal, the Management Board declared that striped bass was still a "green light fishery" and declined to take action to head off the problem.

As someone who has run boats of various sizes on various waters, both inshore and offshore, I learned a long time ago that it is best to slow down and change course early on, to avoid a suspected shoal, rather than maintaining course and speed until the boat runs aground, and then worrying about how to hopefully salvage the vessel. Yet the Management Board seems committed to the latter course when managing striped bass. Precautionary course changes seem alien to its way of thinking.

Thus, I suggest that, before embarking upon Amendment 7, the Management Board ask itself whether it has acted as a responsible steward of the striped bass resources, consistently basing its actions on the best available science, acting quickly to end overfishing, and rebuilding stocks with an eye toward long-term sustainability, as the Charter requires, or whether it allowed short-term social and economic considerations to cloud its decision making and push the bass stock into decline.

Most striped bass anglers will agree that that Management Board was not a good steward, particularly over the past decade.

About 90 percent of striped bass fishing mortality is attributable to the recreational sector, and recreational fishermen release about 90 percent of the striped bass that they catch. Fewer than 5 percent of all striped bass trips are taken on for-hire vessels. When one manages a primarily recreational, overwhelmingly surf and private boat, and predominantly catch-and-release fishery, one should not manage for yield. Such fisheries are managed for abundance, with managers seeking to maximize the number of live fish in the water, and not the number of dead bass on the dock.

Not everyone will agree on that point, as there are still businesses focused on striped bass harvest, and some of them loudly oppose harvest cuts. However, as we approach the third decade of the 21st Century, it is time for the Management Board to look forward, and consider how the striped bass fishery ought to look in 2050, and stop clinging to the obsolete paradigms of the 1950s, when demographics, population and the health of our coastal waters were much different than they are today. As all of our fish stocks, including striped bass, experience greater stresses, the Management Board can no longer accede to the outdated, yet too often-heard claim that anglers all need "a fish to take home."

What striped bass anglers need and want today, and what they will need and want in the future, is an abundance of this that they can catch. Some of those fish will be taken home, but most will be released, with anglers hoping that they will be caught, and released, more than once.

So Amendment 7, should the Management Board decide to move forward with such a document, should stress abundance, not harvest. "Moving the goal posts," by reducing the biomass target in order to increase short-term landings, might please a small minority of stakeholders, but it would be viewed by most striped bass anglers as the Management Board's final abdication of its responsibilities to both stakeholders and to the striped bass stock.

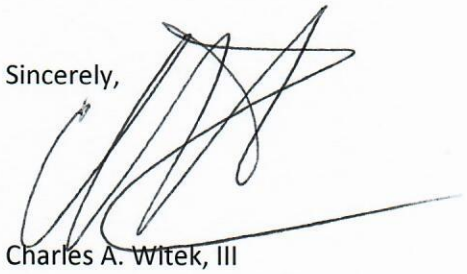
Dr. Michael Armstrong, Assistant Director of the Massachusetts Division of Marine Fisheries and former Chair of the Management Board, noted in a recent webcast sponsored by the American Sportfishing Association, "Fishing effort skyrockets" when striped bass are abundant. "If the stock doubles, the fishing effort does not double, it quadruples...It behooves everyone to keep the stock healthy."

Those are true words.

Abundance drives effort in the striped bass fishery, and in a recreational fishery, it is effort, not landings, that drive economic activity. The more people who fish, and the more often people fish, the greater the fishery's economic value. To the extent that landings significantly reduce abundance, they also reduce effort, and economic returns as well.

I ask the Management Board to keep that truth in the front of everyone's mind should it decide to move forward with Amendment 7.

Sincerely,



Charles A. Witek, III

Max Appelman

From: pfallon mainestripers.com <pfallon@mainestripers.com>
Sent: Thursday, July 23, 2020 9:09 PM
To: Comments
Subject: [External] Comment for Distribution to Striped Bass Board

Please add the following to the electronic distribution of public comments to the Atlantic Striped Bass Board prior to their meetings on August 3 and 4, 20202.

Dear Members of the Atlantic Striped Bass Board,

I'm writing as President of the Maine Association of Charterboat Captains to express our organization's strongest support for the motion originally made by Commissioner Keliher at the February, 2020 meeting to permit the board to require modifications in a state's measures if they fail to meet their targeted mortality reduction in a season.

As the motion currently reads, permitting the board to require modification of measures in the next fishing year is a critical component of the much needed step forward and we don't want to see the motion watered down by pushing the requirement for change out to two years.

As we've addressed in previous comments, the ASMFC and the Striped Bass Board in particular, face a crisis of confidence with the angling public across many stakeholder groups. Recent decisions have started the process of restoring faith in the ability of this group to successfully manage the incredibly important species in the Northeast fishery. Passing this motion is an important and needed next step.

Conservation Equivalency is a management tool that provides the Board with significant flexibility. Unfortunately, it has been misused and under regulated in the past. Public sentiment is building to restrict or eliminate CE's. Adding accountability to CE's is long overdue and could stem the tide of opinion looking to do away with CE's altogether.

Here in Maine, we are at the end of the line for striped bass as the migrate up and down the East Coast. Our recreational saltwater fishery is almost wholly dependent upon this one species. What happens in other states regarding striped bass mortality directly affects our fishing and our livelihoods. On behalf of our members and many of our clients, we urge you to pass this motion at this meeting.

Sincerely,

Capt. Peter Fallon, President

Maine Association of Charterboat Captains

824 Main Rd

Phippsburg, ME 04562

207-522-9900

Governance Survey Results

August 2020

Our vision is to be the principal source of fisheries-dependent information on the Atlantic coast through the cooperation of all program partners.

Survey Background and Objectives

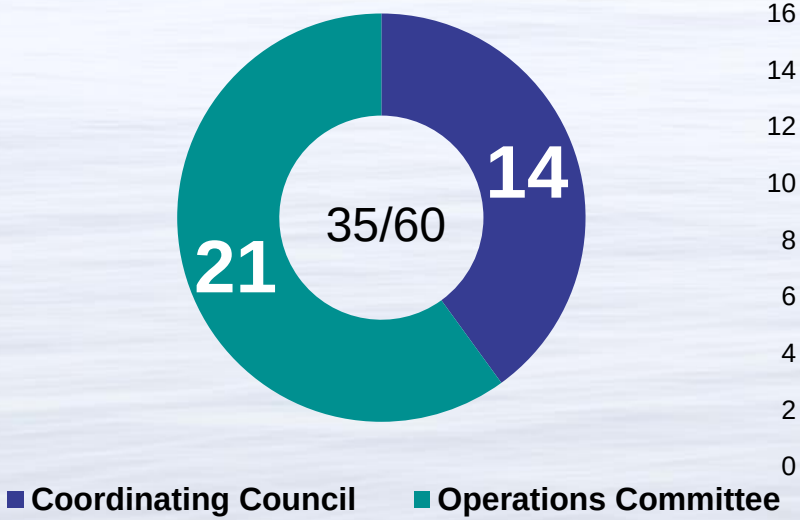
- In October 2016, the ACCSP Coordinating Council and the Atlantic States Marine Fisheries Commission agreed to alter the governance structure of ACCSP.
- New governance structure
  - Full integration of ACCSP into ASMFC
  - ACCSP comparable to Science or ISFMP
- Objectives
  - evaluating the impacts of governance changes and see if additional adjustments are warranted, and
  - reporting to the Coordinating Council if ACCSP has been invigorated, renewed engagement from State Directors and the Program is advancing in its mission.

Survey Design

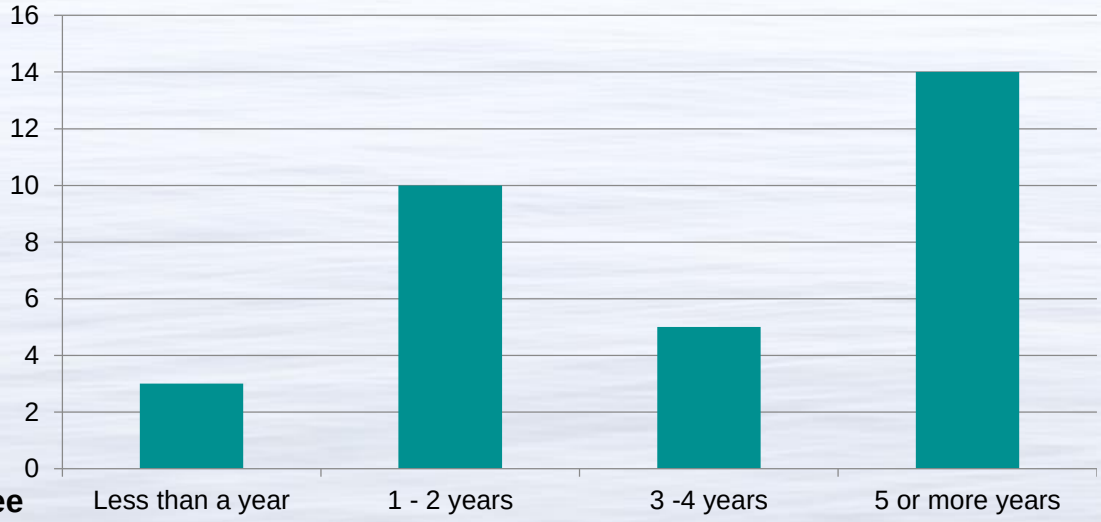
- Initial distribution to all 60 Coordinating Council and Operations Committee members
- Reminders sent only to those that hadn't already responded

Response Rate and Demographics

Respondents by Committee

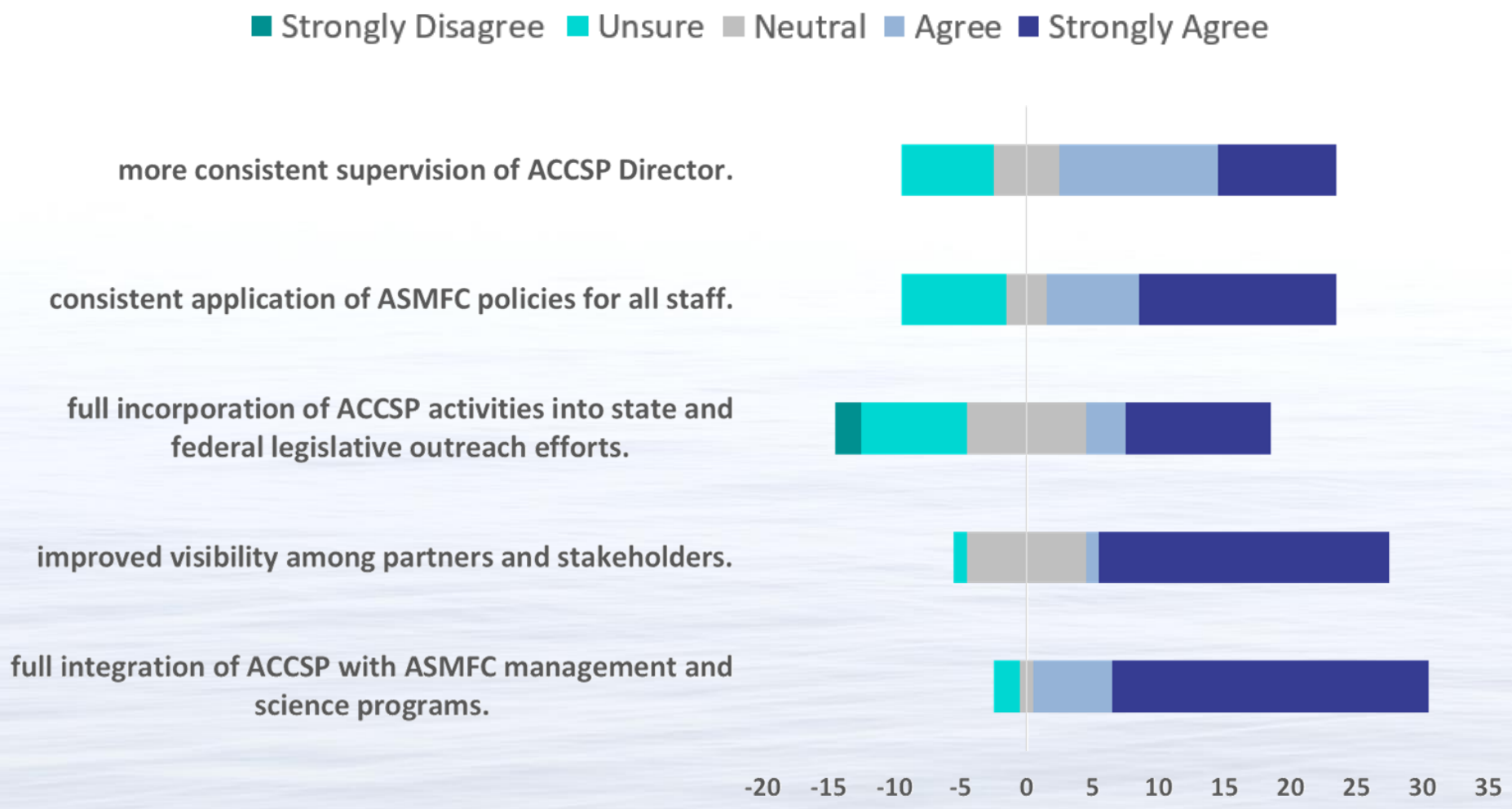


How long have you served on your current ACCSP committee?



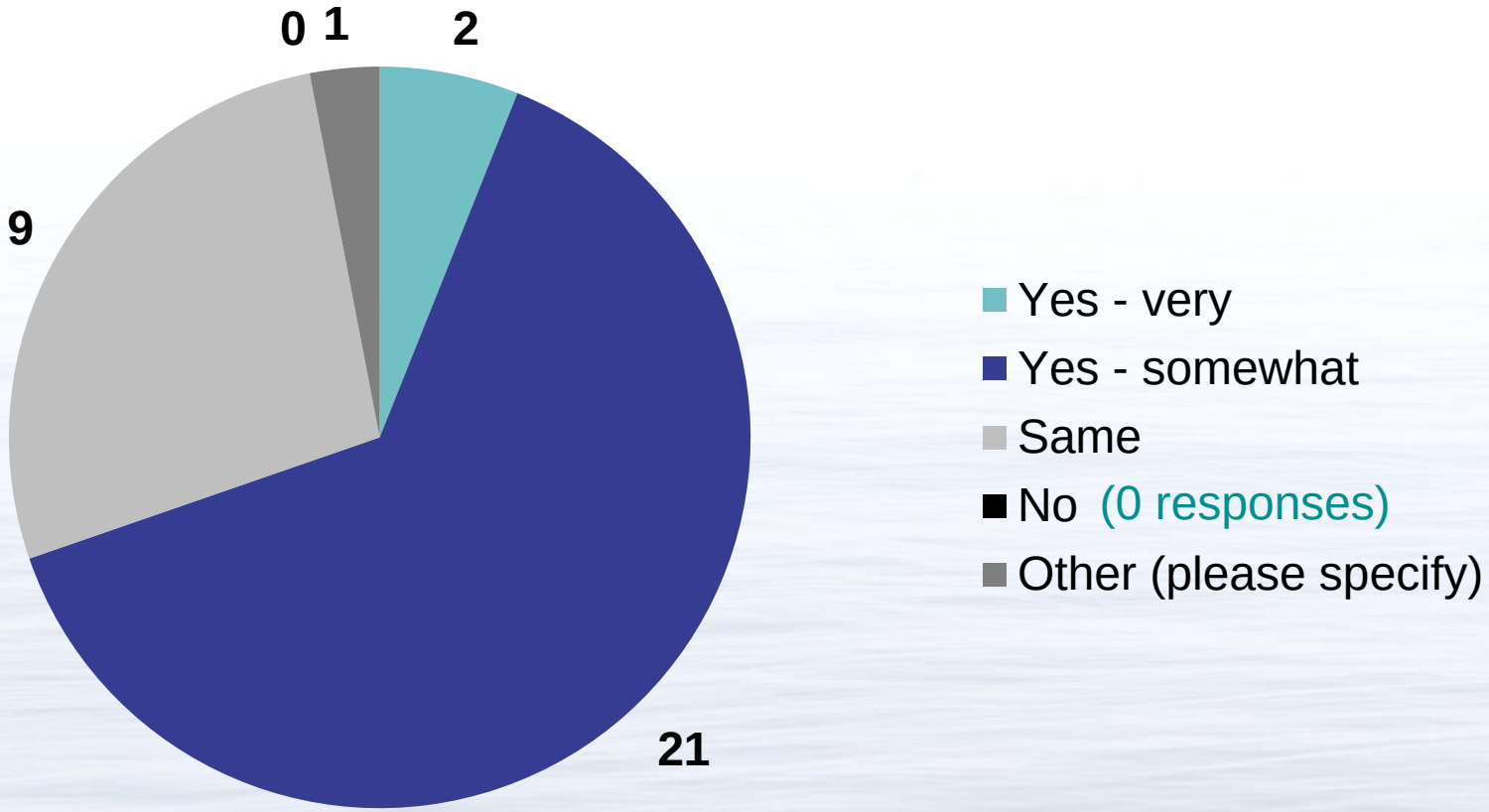
Agencies that didn't respond: NEFMC, CT DEEP, DC FWD, PRFC

Please indicate your level of agreement with each of the following statements. The ACCSP governance change has allowed for:



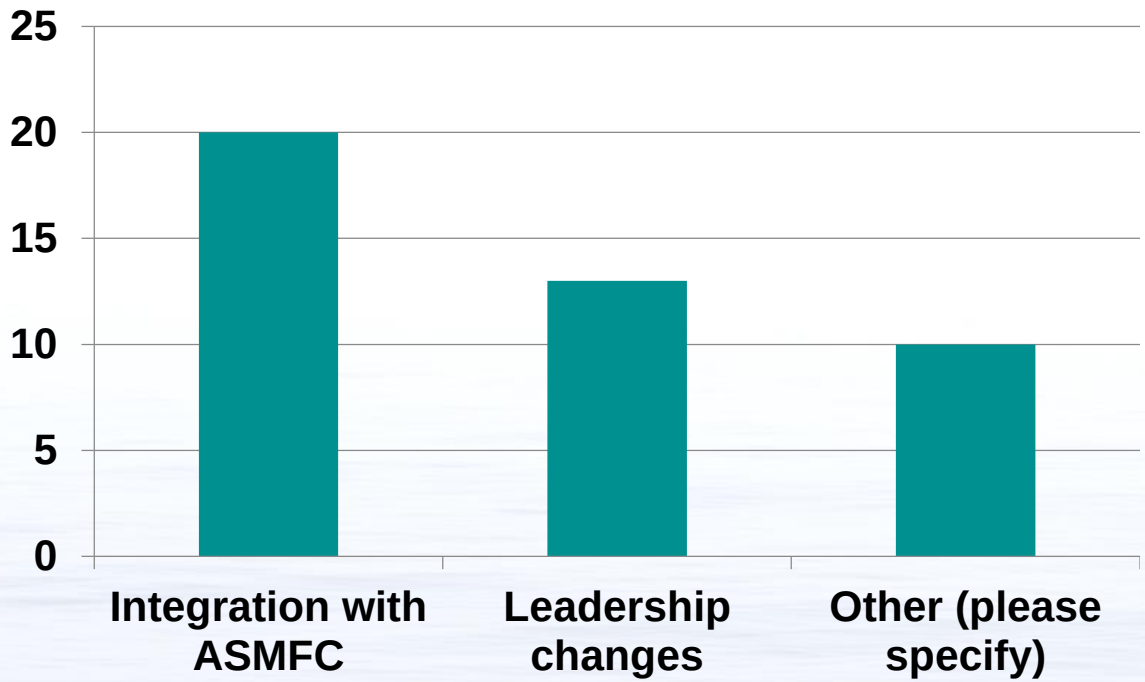
32 responses

Do you feel better informed, engaged, and invigorated?



33 responses

To what do you attribute this change or lack thereof? (check all that apply)



Other

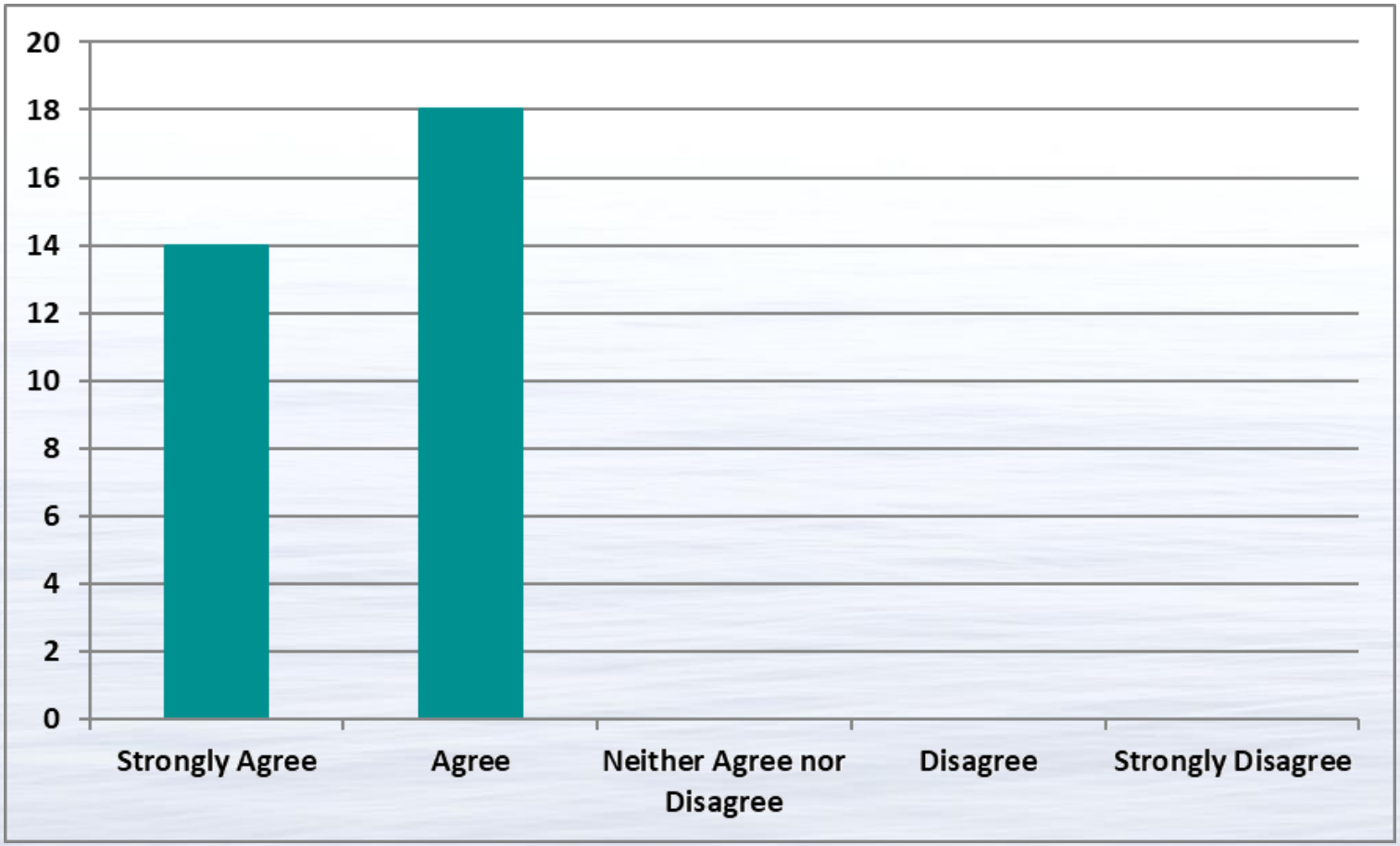
I don't see a change on this particular question because I always felt well informed and engaged with ACCSP. (5)
Personal role/position (2)
SAFIS redesign (1)
Commitment to improved communication by leadership. (1)
Unsure (1)

32 responses

Do you feel the Operations Committee/Coordinating Council members are better informed, engaged, and invigorated?

- High percentage of uncertainty ~45% from both groups in regard to the other.
- Attributed to both integration with ASMFC and leadership changes.

Do you agree the ACCSP is advancing in its mission to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed and disseminated according to common standards agreed upon by all program partners?



32 respondents

Conclusions

- Respondents agree that new governance structure has allowed for
  - ✓ Improved visibility among partners and stakeholders
  - ✓ Full integration of ACCSP with ASMFC management and science programs
- Respondents agree, but have a higher level of uncertainty that new governance structure has allowed for
  - ✓ More consistent supervision of ACCSP Director
  - ✓ Consistent application of ASMFC policies for all staff
  - ✓ Full incorporation of ACCSP activities into state and federal legislative outreach efforts
- Coordinating Council and Operations Committee members, in large part, were uncertain of the feelings of their counterparts

Conclusions (cont.)

- ✓ **Majority of respondents feel better informed, engaged, and invigorated.**
- ✓ **This change is due to both ASMFC integration and ACCSP leadership.** It should be noted that 5 respondents previously felt informed and engaged.
- ✓ All respondents **agree that ACCSP is advancing in its mission** to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed and disseminated according to common standards agreed upon by all program partners.

Discussion

Atlantic States Marine Fisheries Commission

Atlantic Coastal Cooperative Statistics Program Coordinating Council

Committee Status

Since the last Council meeting, the ACCSP has published three monthly newsletters on Committee Activities. The newsletter was designed to keep all ACCSP Committee members informed of the Program's activities and accomplishments.

1) May 2020
2) June 2020
3) July 2020

View this email in your browser

May 2020 Committee Newsletter

This newsletter is intended to keep all committee members aware of the activities and accomplishments of ACCSP committees and staff. These updates will be monthly to ensure timely communication and keep each issue brief but informative. ACCSP staff welcomes feedback on all content.

Upcoming Events

- **May 11th 11AM-12PM:** SAFIS Redesign working grroup
- **May 14th 2PM-3PM:** Recreational Technical Committee Call
- **Early June:** Recreational Technical Committee Call

Highlights

- The Operations and Advisory Committees met on April 15th. They reviewed the FY2021 ACCSP RFP, approved changes, and forwarded to the Coordinating Council.
- The Coordinating Council met on May 5th and approved the FY2021 ACCSP RFP as submitted in a consensus vote.

ACCSP Releases FY 2021 Request for Proposals!

Coordinating Council

- Convened during May 5th ASMFC Spring Webinar.
- Approved the FY2021 ACCSP RFP.
- Reviewed materials on Committee and Program updates.
- Considered an MRIP draft report to Congress on State Partnerships. Comments are due to G. White by May 20th, 2020.

Operations Committee & Advisory Committee

- Webinar was held on April 15th.
- Reviewed FY19 Funding Status and Project Expenditures.
- The Committees were presented an MRIP draft report to Congress on State Partnerships.

Commercial Technical Committee

- The Conversion Factor small working group is developing a proposal on commercial sampling for top 5 priority fish and crustacean species. The group has solicited the full committee for participation, and the number of participating agencies is increasing.

    - Atlantic Sharpnose Shark
    - American Eel
    - Blue Crab
    - Snowy Grouper
- ACCSP staff are reviewing marine aquaculture data within SAFIS and the Data Warehouse with the NOAA Office of Aquaculture. This review will help inform NOAA's approach to future comprehensive standardization and consolidation of Atlantic aquaculture data. Next steps may include increased collection of aquaculture harvest data via SAFIS applications, along with data stream coordination among state, regional, and federal partners.

Informational Systems Committee

- The SAFIS Redesign Working Group was created to inform the Information Systems committee of progress on the resdesign. It Is comprised of members of the Information Systems Committee. The intent is to review progress of the new SAFIS Management System (SMS) Swithboad features.
- Switchboard will provide flexibility for partners in managing attributes for trips/dealer reports.
- The attributes will be provided to the mobile application and to the redesigned eTRIPS/online attribute.
- A beta of eTRIPS/online will be available for review/testing June 30th.

Recreational Technical Committee

- Next meeting on May 14th at 2PM
- Follow-up meeting on June 4th at 1PM
- Highest priority goals for addressing recreational data needs in 2020 include:
    - Improve PSE (increase precision) of MRIP catch estimates to better meet fisheries management needs.
    - Continue development of comprehensive for-hire data collection and monitoring program to combine distinct data collection methodologies for effort and catch with a validation component.
    - Update the ACCSP Atlantic Coast MRIP Implementation Plan to better respond to regional recreational fishery needs of the Atlantic coast.

Standard Codes Committee

- Review the appropriateness of the “762 - WEEDWHACKER, SEAWEED” gear name.
- Request for the addition of a new “Length of Float Line” gear attribute for Long Line

ACCSP

Good Data, Good Decisions

June 2020 Committee Newsletter

This newsletter is intended to keep all committee members aware of the activities and accomplishments of ACCSP committees and staff. These updates will be monthly to ensure timely communication and keep each issue brief but informative. ACCSP staff welcomes feedback on all content.

Upcoming Events

- **June 22nd - June 25th**: Regional calls to discuss data for-hire comprehensive plan for Atlantic Coast:
- **July 16th:** Operations/Advisors Committee Initial Proposal Review Meeting
- **August 3-6th:** Convene Coordinating Council during ASMFC Meeting week (online only)

Highlights

The ACCSP Data Team worked with state and federal partners to deliver the 2019 data a few days before the official deadline in April. Thank you to everyone for all of the hard work.

"Despite the difficulties associated with the COVID outbreak, ACCSP beat the data deadline for the Spring Data Load and the data are exceptionally clean."
- Michael Lewis (NMFS Office of Science and Technology)

Coordinating Council & Operations Committee

- A survey designed to determine our progress in achieving the long-term goals of the governance transition plan has been distributed to all Coordinating Council and Operations Committee members.
- If you have not already completed the survey, you will have recently received an email. Your time, attention, and thoughtful responses are greatly appreciated.
- Survey results will be summarized across all agencies and presented at the Coordinating Council meeting in August. Please respond to the survey by **July 15.**

Commercial Technical Committee

- The Conversion Factor small working group has submitted an initial proposal for the continued validation and development of conversion factors for priority fish and crustacean species. Species of interest include:

    - American Eel
    - Blue Crab
    - Snowy Grouper
- An Electronic Monitoring working group has formed in order to coordinate EM standards and protocols amongst Atlantic coastal partners. The group is comprised of state and federal experts from the commercial and for-hire sectors.

Informational Systems Committee

- Switchboard has been incorporated into SMS and is available in production. This will allow partners flexibility in turning on/off additional attributes for gears, trips, effort, catch, species, and offload properties.
- SAFIS Redesign prototype of eTRIPS/online will be presented for demo on June 30th and available Fall 2020 for testing.
- eTRIPS/mobile v2 will be available late June 2020 and will incorporate the switchboard.

Recreational Technical Committee

- Regional calls to discuss data for-hire comprehensive plan for Atlantic Coast:
    - June 22nd at 1pm – North Atlantic
    - June 23rd at 2pm – South Atlantic
    - June 25th at 1pm – Mid Atlantic
- Full committee call in mid-July (specific date TBD)
- Addressing highest priority goals of Atlantic implementation plan
    - Improving PSE of MRIP catch estimates
        - NOAA Fisheries and state partners will allocated ~1,700 additional site assignments, specifically targeting sites with more off-shore interviews to target off-shore and reef species groups
    - Advance coastwide comprehensive for-hire plan documentation for eventual submission to MRIP for certification

Standard Codes Committee

- Reviewing Fish Length Bins as Market Codes, in order to capture the necessary information for HMS discards.

Editor: Marisa Powell
Please contact us if you have any questions or feedback at info@accsp.org

July 2020 Committee Newsletter

This monthly newsletter is intended to keep all committee members informed of the activities and accomplishments of ACCSP committees and staff. ACCSP staff welcomes feedback on all content.

Upcoming Events

- **August 3 (10:30AM-Noon):** Coordinating Council convenes during ASMFC Meeting week (online only)
- **Weeks of August 3rd and 25th:** Recreational Technical Committee Calls
- **See** ACCSP Calendar Link **for more information**

Highlights

The first half of 2020 has included many unexpected challenges. I extend my appreciation of ACCSP and Partner staff successes during these times to support each other, and maintain project schedules to the best of everyone's ability. Our combined efforts to safely continue - and improve - fisheries data collection and dissemination directly supports the ACCSP Mission.
–Geoff White

Coordinating Council & Operations Committee

- In response to the FY2021 RFP, ACCSP received 9 maintenance proposals, 6 new proposals, and one administrative proposal for a total $3.6 million in funding request.
- On July 16, the Operations and Advisory Committee met via webinar. The committees discussed status of previous funded project expenditures, and reviewed the Preliminary Proposals for FY21 providing feedback to the primary investigators. Final proposals will be ranked in September.
- Council and Operations Committee members have responded to a survey on our progress in achieving the long-term goals of the 2017 governance transition plan. Results will be discussed during the August 3rd Coordinating Council Meeting.

Biological Review Panel

- A small group was created to finalize the Resilience Factor scores for the Biological

finalization of this project will add a quantitative score to the resilience field of the Biological Review Panel Matrix. Adding this analysis improves the process identifying the top biological species of concern for ACCSP project funding.

Commercial Technical Committee

- An Aquaculture working group is being formed in coordination with the NOAA Office of Aquaculture. The group will be comprised of ComTech committee members, state and regional aquaculture representatives, and NOAA staff. The first step is administering a questionnaire developed by the NOAA Office of Aquaculture in order to understand current reporting requirements and compatibility with harvest/dealer modules in SAFIS.
- ACCSP staff are reviewing the Confidential Access application with developers to update and improve the user process. Per an action item from the March 2020 meeting, staff are considering a new feature to split database accounts from non-disclosure agreements, facilitating a more straightforward process for 1-time data access requests.

Informational Systems Committee

- Staff and partners have made significant progress on SAFIS eTRIPS applications to adjust to multiple partner requirements and align data collection fields and processing across ACCSP software mobile and online platforms.
- SAFIS eTRIPS/mobile v2 has undergone three ‘tests in production’, a new process that supports review of new features incorporating the switchboard prior to end user release. This robust testing has improved the quality of the application in development to meet partner needs. Scheduled production release date is 14-Aug-2020.
- SAFIS eTRIPS /online development to include requirements of American Lobster by Jan 2021 continues with a SAFIS Redesign prototype presented to RI and MA on June 30th. 2020 milestone dates are:
    - August 24th, 2020 – work group demo
    - October 1st, 2020 – beta testing including CARRING, e-1ticket
    - November 13th 2020 – available to all partners for testing
    - January 4th 2021 – available in production
- SAFIS electronic Dealer Reports (eDR) will undergo redesign work in 2021

Recreational Technical Committee

- Held three Atlantic regional calls the week of June 22-26 and a full committee call

interviews conducted on offshore anglers, for all states, based on regional data needs. This addresses the 1st priority of ACCSP Atlantic Implementation Plan by increasing the overall number of interviews (sample size), the catch component of total recreational catch estimates. Targeting offshore anglers increases the likelihood of recording catch data for typically rarer offshore species groups which will ultimately increase precision of estimates for these species.

- Development of data standards for the Comprehensive For-hire Data Collection Program to address the 2nd priority of ACCSP Atlantic Implementation Plan by moving toward standard, certified for-hire logbook data collection as part of the for-hire plan.
- Discussion of COVID-19 related APAIS field procedures to minimize the impacts on recreational fishing survey dockside interviewing from Maine to Georgia. Providing a forum to discuss best practices balancing interviewer/public safety with survey conduct was useful in maintaining coastwide standards

Standard Codes Committee

- Request for new Disposition Code: “Research, sub-legal size”
- ACCSP staff are coordinating with GARFO to develop code translations which would ensure that updated VTR records could be transmitted back to ACCSP without any loss of information detail.

ACCSP Program

- Ongoing collaboration and coordination with regional partners on eVTR data collection initiatives through GARFO, SERO, and HMS.
- ACCSP passed initial FISMA approval milestone, improving internal security and formal data sharing agreements with NOAA offices. Ongoing activities include continuous monitoring and quarterly reporting to the NOAA OCIO.
- Ongoing improvements to ACCSP website content, reference documents, and calendar functionality.

Editor: Marisa Powell
Please contact us if you have any questions or feedback at info@accsp.org

Atlantic Coastal Cooperative Statistics Program
Coordinating Council

August 3, 2020

PROGRAM UPDATES

(Since May 2020)

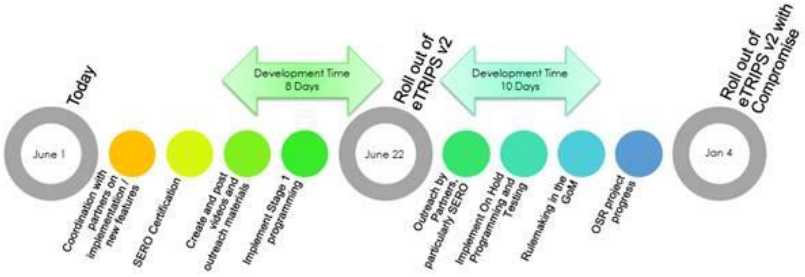
1. **Budget / Funding**
    - ACCSP Grant status – Final year of 5 year grant (no carryover past Feb 2021)
        - 2020 budget expenditures on track
        - Contracts are more expensive than planned, leading to seeking of future external funds
    - MRIP Grant status – Starting year 2 of 5
        - Some savings during waves 1-3, states now submitting invoices by wave
        - Note MRIP $3M increase (all regions) to support increased sampling identified $900K through ASMFC. ACCSP Recreational Technical Committee engaged on process to use funds to strategically sample to reduce PSE where can (for all species, with focus on offshore). Initial split by state completed, now working on assignment distribution by wave/mode and starting dates for W5 or W6 2020
    - FIS Quality Management: Tools to Improve Data Provision for ASMFC Stock Assessments
        - Start date 6/1/2020, project initiated and transitioned to virtual meetings

    2021 External Funding Proposals
    - FIS proposal (submission 1) Continued Development and Enhancement to the ACCSP Online Data Query Tool and the ACCSP Assignment Tracking Application
        - FIN development $181,500 start 4/1/2021 for 11 months
    - FIS proposal (submission 2) Atlantic Coast Project Scoping for Implementation of Automated Data Auditing and Validation for Electronic Logbooks
        - Quality Management $58,448 start 3/1/2021 for 11 months
    - NFWF proposal submitted for SAFIS Helpdesk (mobile applications)
        - SAFIS mobile application support for end users $326K start 1Jan2021 14 months

2. **External Coordination**
    - FIS Monthly Coordination Meetings and participated in RFP proposal reviews.
    - GARFO - Monthly ACCSP⇔ GARFO coordination meetings increasing awareness of shared initiatives. One Stop Reporting (OSR) project delayed and moved virtual due to travel restrictions
    - GULFFIN – Supporting their deployment of MRIP tablets and centralized database and cross-involvement on technical committees.
    - MRIP Reginal Implementation Council – Supported development of MFA reports to congress, implementation plans for next year, and spend plan for increased APAIS sampling. ACCSP increased participation in MRIP Regional Communications Groups
    - NEFMC, MAFMC, GARFO – Participating in outreach and training for 2021 eVTR regulations
    - SAFMC – Contributed to COVID article at SAMFC; coordinated on Citizen Science projects; participated in SEDAR scheduling
    - SERO - Bi-weekly ACCSP ⇔ SERO coordination meetings supporting SEFHIER development and implementation

3. **Staffing**
    - ASMFC COVID telework maintaining commitments and successful staff coordination
    - Filled open positions, ACCSP currently at 14 staff:
        - Program: Geoff White, Julie Simpson, Marisa Powell
        - Data: Jennifer Ni, Joe Myers, Heather Konell, Mike Rinaldi, Lindsey Aubart
        - Rec: Alex DiJohnson, Trevor Scheffel, Sarah Hylton, (Coleby Wilt on leave)
        - Software: Karen Holmes, Nico Mwai, Ed Martino
    - Held workshop to 'Actualize MBTI' on communication within ACCSP.
    - Focused on successfully meeting external deadlines, and recognize the ongoing need to rebalance workload and timeline expectations.

4. **ACCSP Project Highlights**
    - Data Warehouse / Data Requests
        - Spring Data load follow-up: updated HMS Bluefin tuna data, VA merge, participant ID updates, and MRIP final 2019 data
        - Fall load schedule of 2019 data announced - target release is September 25, 2020
        - Data Requests – Participated in multiple SEDAR's, assessment data requests, and COVID related requests for both data and contact information for surveys. ACCSP staff coordinated with partners on appropriate data for release
    - FISMA
        - ACCSP granted NOAA Authority to Connect on June 9, 2020. This is a grand accomplishment for ACCSP and federal partnership completing a 2018 commitment
        - ISA agreements signed with GARFO, NEFSC, S&T, HMS, and SEFSC. SERO connection waiting on NOAA Privacy Office approval of sharing permit PII (birthdates). SERO ⇔ ACCSP staff have prepared the ISA and technical connections
        - Completed updates to internal network to improve security on-site, over VPN, and between ASMFC and ACCSP computing resources
        - Ongoing general monitoring and completion of some documentation items. This includes quarterly reports to the OCIO, and annual 3rd party audits
    - MRIP
        - Coordination of sampling during COVID-19: APAIS resumed by July 1 for all but CT (Aug 1), VA (Jul 18)
        - Wave 1 data released for catch and effort, Wave 2 effort data released and ACCSP distributed by email as support and access in alignment with MRIP approach
        - State conduct of FHTS going strong. Submitted Wave 2 FHTS report (a first!)
    - Outreach / Communications
        - Improvements to website pages, links, document & project postings for 2018 forward
        - Monthly ACCSP committee update email has received positive feedback
        - Integrating communications schedule with ASMFC (newsletters, notices, tweets)
    - SAFIS application updates
        - Addressing alignment of ACCSP tools so that what is possible in eTRIPS/mobile is also possible in eTRIPS/online and properly connects to eDR/online & mobile. Includes complexities of multiple federal permit holders seeing the right questions and codes in all cases, and addition of HMS questions when species caught.
        - New evening testing method in production – amazing coordination and improved process to identify and quickly fix items before product release. Resulting in MAJOR benefit to partners and fishermen as better application product release.
        - SAFIS software rollout schedule
            - eTRIPS /mobile v2 for SERO/SEFSC/HMS/GARFO – August 2020
            - eTRIPS /online: modifications to allow partner elements via a 'switchboard'
            - eTRIPS /online REDESIGN: Jan 2021 – move to very different underlying structure – allows for greater flexibility for partners to collect questions.
            - eTRIPS /mobile v2 compromise lists for multiple permit holders– January 2021
            - eDR /mobile & online will undergo further redesign work during 2021
    - SEFHIER
        - GULF regulations published for January 5, 2021 for Logbooks and Hail out. Location tracking (VMS) has unknown implementation date
        - ACCSP applications and database will be ready, awaiting SERO certification
        - ACCSP coordination timeline highlights the benefits (and complexity) of an integrated program and database: coordination and lead time critical to overall success



ATLANTIC STATES MARINE FISHERIES COMMISSION

2020 Action Plan

Approved October 29, 2019

Goal 3 - Produce dependable and timely marine fishery statistics for Atlantic coast fisheries

Effective management depends on quality fishery-dependent data and fishery-independent data to inform stock assessments and fisheries management decisions. While Goal 2 of this Action Plan focuses on providing sound, actionable science and fishery-independent data to support fisheries management, Goal 3 focuses on providing timely, accurate catch and effort data on Atlantic coast recreational, for-hire, and commercial fisheries.

Goal 3 seeks to accomplish this through the activities of the Atlantic Coastal Cooperative Statistics Program (ACCSP), a cooperative state-federal program that designs, implements, and conducts marine fisheries statistics data collection programs and integrates those data into data management systems that will meet the needs of fishery managers, scientists, and fishermen. ACCSP partners include the 15 Atlantic coast state fishery agencies, the three Atlantic Fishery Management Councils, the Potomac River Fisheries Commission, NOAA Fisheries, and the U.S. Fish and Wildlife Service (USFWS).

On a continuing basis, ACCSP will:

- Review and maintain coastwide standards for data collection and processing in cooperation with all program partners
- Provide funding to its Program Partners supporting data collection management and innovation through a competitive process
- Maintain commercial dealer reporting and commercial and for-hire fishermen catch reporting through the Standard Atlantic Fisheries Information System (SAFIS) electronic applications
- Coordinate state conduct of the Marine Recreational Information Program (MRIP) Access Point Angler Intercept Survey (APAIS) and the For-hire survey (FHS)
- Consolidate and integrate partner data and provides user-friendly, online public and confidential access to those data via the Data Warehouse

ACCSP staff is also responsible for ensuring that all hardware and software related to ASMFC and ACCSP systems and the network components (e.g., routers, firewalls) are maintained in accordance with established processes and procedures.

PROGRAM MANAGEMENT

- Monitor 2020 ACCSP funded projects, and select 2021 projects through a competitive proposal process; these years represent the first targeted reductions in funding for ongoing or maintenance projects
- Strengthen and modernize the committee process and bolster partner and advisor engagement
- Determine an alternative method for distribution and revision of Atlantic coast data standards to improve accessibility and be more responsive to partner needs
- Integrate communication strategies with ASMFC Strategic Communications Plan

FISHERIES-DEPENDENT DATA COLLECTION

SAFIS

- Extend SAFIS application capabilities to capture trip declaration reports (hailing) and vessel location data
- Continue major redesign of the SAFIS database and applications for dealer landing and harvester catch reporting (SAFIS eDR and eTrips) that includes an integrated reporting solution to streamline reporting, and reduce duplication. This will be accomplished by:
    - Develop data collection applications that allow a single submission to meet the reporting requirements of multiple partner agencies
    - Implement updated participant and permit database design
    - Coordinate implementation of trip management system with universal trip ID
    - Implement one methodology to process data entered via online, mobile, or file upload
- Support the efforts of federal and state agencies to implement mandatory electronic trip reporting, including expansion of commercial and for-hire logbooks by the regional fishery management councils, and NOAA Fisheries' regional offices and science centers

Recreational Surveys

- Implement state conduct of the MRIP FHTS from Maine to Georgia
- Expand implementation of electronic data collection for MRIP APAIS and FHTS
- Develop methodology to more fully incorporate for-hire logbooks into recreational catch statistics
- Update Atlantic Recreational Implementation Plan

DATA DISTRIBUTION AND USE

- Update Data Warehouse structures and queries to incorporate new data elements collected by partner systems
- Continue to expand Data Warehouse content including the addition of biological data module
- Implement additional processes and partner communication designed to improve data integrity

DATA INFRASTRUCTURE AND SECURITY

- Extend infrastructure to support increasing data volumes associated with partner implementation of SAFIS reporting applications
- Address security protocols as needed to comply with Federal Information Security Management Act

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

July 27, 2020

To: **South Atlantic State/Federal Fisheries Management Board**

From: **Michael Schmidtke, FMP Coordinator**

RE: **Upcoming Scheduling Considerations for Cobia, Atlantic Croaker, and Spot**

Atlantic Cobia

In August 2019, the Board approved Amendment 1 to the Interstate Fishery Management Plan (FMP) for Atlantic Migratory Group Cobia (Atlantic cobia), with an implementation date of July 1, 2020. In February 2020, the Board specified harvest quotas for 2020-2022 and decided to maintain state recreational regulations in 2020 to allow time for states to develop management strategies (seasons and vessel limits) to implement the new recreational quota and state harvest targets in 2021. Additionally, the Board initiated Draft Addendum I to Amendment 1, in part, to consider reallocation of quotas for the commercial and recreational fisheries.

Due to COVID-19, Draft Addendum I was not considered for public comment at the Commission's 2020 Spring Meeting, but will be considered at the Summer Meeting. If the Board approves Draft Addendum I for public comment, hearings will be scheduled and held in August and September with Board consideration for final approval at the Annual Meeting in October.

Because Draft Addendum I considers a change to commercial and recreational quotas through reallocation, a potential timeline for implementation could be for states to submit plans for implementing new quotas and measures from both Amendment 1 and Draft Addendum I for review by the Cobia Technical Committee (TC) by mid-November. The TC could then conduct their review in early December, and the Board could consider approval of plans via email or webinar later in December, prior to the holidays. This would allow some states to be able to implement new regulations prior to 2021, and most, if not all, to implement prior to the beginning of the main fishing season in the spring. If the Board intends to review implementation plans via email or a separate webinar, that should be agreed upon at a Board meeting. Time is reserved at the upcoming Summer Meeting for considering this or alternative timelines.

Atlantic Croaker and Spot

Traffic Light Approach (TLA) analyses for Atlantic croaker and spot are typically conducted and presented to the Board at the Summer Meeting. After approval to Addendum III to each of the

Atlantic Croaker and Spot FMPs, TLA analyses were planned to incorporate a regional approach that uses the Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAP) as an abundance index for the Mid-Atlantic components of the stocks. However, changes were made to the ChesMMAP survey in 2019, requiring calibration of previous data points. This calibration is in progress, but may not be available during 2020.

The Atlantic Croaker and Spot TCs will meet to discuss potential adjustments to the TLA analyses for 2020, and plan to present results at the 2020 Annual Meeting. Under Addenda III, the TCs are able to consider and use other surveys, as deemed appropriate, to provide the best available scientific advice through the TLA. If management action is triggered and initiated at the Annual Meeting, a timeline for implementation of triggered measures would also need to be established.

Atlantic States Marine Fisheries Commission

Shad and River Herring Management Board

August 4, 2020
8:30 a.m. – 12:00 p.m.
Webinar

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. Armstrong)*	8:30 a.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from October 2019	8:30 a.m.
3.	Public Comment	8:35 a.m.
4.	Consider 2020 Shad Benchmark Stock Assessment **Action** • Presentation of Stock Assessment Report *(M. Bailey)* • Presentation of Peer Review Panel Report *(K. Limburg)* • Consider Acceptance of Benchmark Stock Assessment and Peer Review Report for Management Use *(M. Armstrong)* • Consider Management Response to the Assessment and Peer Review *(M. Armstrong)*	8:45 a.m.
5.	Break	10:10 a.m.
6.	Consider State Proposals to Resolve Inconsistencies with Amendments 2 and 3 **Final Action** • Presentation of State Proposals and Technical Committee Recommendations *(K. Sprankle)* • Presentation of AP Comments on State Proposals and Technical Committee Recommendations (*P. Lyons Gromen*) • Consider Approval of State Proposals	10:25 a.m.
7.	Update on River Herring Technical Expert Work Group Activities *(C. Starks)*	11:35 a.m.
8.	Update on Timeline for Shad Habitat Plan Updates *(C. Starks)*	11:45 a.m.
9.	Elect Vice-Chair *(M. Armstrong)* **Action**	11:55 a.m.
10.	Other Business/Adjourn	12:00 p.m.

This meeting will be held via webinar, click here for details.
Sustainable and Cooperative Management of Atlantic Coastal Fisheries

MEETING OVERVIEW

Shad and River Herring Management Board Meeting
August 4, 2020
8:30 a.m. – 12:00 p.m.
Webinar

Chair: Mike Armstrong (MA) Assumed Chairmanship: 10/19	Technical Committee Chair: Ken Sprankle (FWS)	Law Enforcement Committee Representative: Furlong (PA)
Vice Chair: VACANT	Advisory Panel Chair: Pam Lyons Gromen	Previous Board Meeting: October 30, 2019
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, DC, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS (19 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from October 2019

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

4. Consider 2020 American Shad Benchmark Stock Assessment (8:45-10:10 a.m.) Action

Background

- The American Shad Benchmark Stock Assessment was initiated in October 2017. After delays in the proposed timeline, the scheduled completion date was moved to August 2020.
- The final Assessment Workshop was held November 18-22, 2019 in Charleston, SC.
- The assessment evaluated the condition of Atlantic coast American shad stocks and habitat availability on a system-specific and coastwide metapopulation basis (**Briefing Materials)**.
- The assessment was peer-reviewed virtually by a panel of independent experts June 2-5, 2020. The Peer Review Report provides the panel's evaluation of the assessment findings (**Briefing Materials**).

Presentations

- Overview of Benchmark Stock Assessment by M. Bailey
- Presentation of Peer Review Report by K. Limburg

Board actions for consideration at this meeting

- Consider the stock assessment for management use
- Consider management response to the assessment and peer review

5. Break (10:10-10:25 p.m.)

6. Consider State Proposals to Resolve Inconsistencies with Amendments 2 and 3 (10:25-11:35 a.m.) Final Action

Background

- In October 2017 the TC identified several inconsistencies between state SFMPs and the requirements of Amendments 2 and 3. Subsequently, the Board tasked the TC to develop proposed improvements to the Amendments with regard to several items: 1) Management and monitoring of rivers with low abundance and harvest of shad and river herring; 2) Standardization of Sustainable Fishery Management Plan (SFMP) requirements; 3) Incorporation of stock assessment information into SFMPs and discussion on the timeline for renewing plans; 4) Clarification of *de minimis* requirements as they pertain to SFMPs; and 5) Review of the number of years of data required before developing a SFMP.
- In October 2019, the TC presented a report on inconsistencies with Amendments 2 and 3, describing state inconsistencies with the FMP and case-by-case recommendations to resolve issues. The Board requested that all states with identified inconsistencies submit updated or new SFMPs or Alternative Management Plans (AMPs) following the TC recommendations. During spring 2020, the TC reviewed state proposals from ME, NH, DE, NC, SC, GA, and FL. The TC recommended approval of all proposals (**Briefing Materials**).
- The Advisory Panel also met in April 2020 to review the proposed management plans, as well as the TC recommendations regarding additional improvements to the FMP for Board consideration (**Supplemental Materials**).
- In addition to SFMP and AMP proposals, NH submitted a request to keep the river herring fishery open in 2020, despite not meeting the SFMP's fishery-independent target of a 3 year average of 350 fish per acre of spawning area; NH asserts that the target was not met due to fish counter malfunctions that caused gross underestimations of run counts at the Cocheco River Fishway, rather than population concerns. The TC has reviewed NH's request and supports this approach (**Briefing Materials**).
- The TC also reviewed a proposal from GA to modify the Savannah River sustainability metric in the American shad SFMP; reductions in commercial fishing activity in the Savanah River have rendered the current fishery-dependent SFMP sustainability metric insufficient for management. GA proposes use of a fishery-independent state sampling program for the metric instead. The TC recommends approval of this proposed change (**Briefing Materials**).

Presentations

- Technical Committee Recommendations on State Proposals to Resolve Inconsistencies with Amendments 2 and 3 by K. Sprankle
- Advisory Panel Comments on State Proposals and TC Recommendations by P. Lyons Gromen

Board actions for consideration at this meeting

- Approval of proposed updates to SFMPs and AMPs to resolve inconsistencies with Amendments 2 and 3.

7. Update on River Herring Technical Expert Working Group Activities (11:35-11:45 a.m.)

Background

- The River Herring Technical Expert Work Group (TEWG) was established in 2014 to address significant data deficiencies for river herring species, and compile information for use by NOAA Fisheries and ASMFC in the development of a conservation plan.
- Recently, NOAA Fisheries has secured funding for a contractor to work on revising the 2015 River Herring Conservation Plan. The goal of this work will be to update and synthesize

information on river herring threats, data and research needs, and recommended conservation actions into one document that will support conservation and restoration efforts for river herring along the Atlantic coast.
- TEWG leadership has also been considering renaming the group to reflect the change in function from a work group to an information exchange forum.

Presentations
- Update on River Herring Technical Expert Working Group Activities by C. Starks

8. Update on Timeline for Shad Habitat Plan Updates (11:45-11:55 a.m.)

Background
- Amendment 3 to the Shad and River Herring FMP requires all states and jurisdictions to submit a habitat plan for American shad. A majority of the habitat plans were approved by the Board in February 2014, and it was anticipated that they would be updated every five years.
- The states have begun the process of reviewing their American shad habitat plans, however, many states have encountered delays due to COVID-19. As such, it is unlikely that states will be able to provide updated plans for consideration at the 2020 Annual Meeting. Staff recommends states provide updated plans for consideration at the Winter 2021 ASMFC meeting.

Presentations
- Update on Timeline for Shad Habitat Plan Updates by C. Starks

Board actions for consideration at this meeting
- Direct states to provide updated shad habitat plans for consideration at the Winter 2021 ASMFC meeting.

9. Elect Vice-Chair (11:55-12:00 p.m.)

10. Other Business/Adjourn

Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **Shad and River Herring Management Board**
Cc: Shad and River Herring Technical Committee

FROM: **Shad and River Herring Advisory Panel**

DATE: **April 8, 2020**

SUBJECT: **Comments on state proposals to resolve management inconsistencies with Amendment 2 and 3 requirements**

The Shad and River Herring Advisory Panel (AP) met via conference call and webinar on Wednesday, April 8th to review and discuss state proposals for changes to river herring and shad management plans to resolve inconsistencies with Amendments 2 and 3 to the Commission's Shad and River Herring Fishery Management Plan (FMP).

AP Attendance
Pam Lyons Gromen (Chair)
Alison Bowden (MA)
Byron Young (NY)
Jeff Kaelin (NJ)
Mike Thalhauser (ME)
Ray Brown (NC)

Additional Attendees
Mike Dionne (NHFGD)
Holly White (NCDMF)

On the call, staff provided a presentation including background information on the issue, the Technical Committee's (TC) findings and recommendations regarding management inconsistencies, and the Board directive to the states to submit proposals to follow the TC's recommendations to resolve inconsistencies. Staff also gave an overview of each state proposal submitted to the TC. The AP commented on the proposed management plans, as well as the TC recommendations regarding additional improvements to the FMP for Board consideration.

The AP discussed the following state proposals:

- **Maine**: proposed changes to existing river herring sustainable fishery management plan (SFMP), proposed new shad SFMP
- **New Hampshire**: proposed changes to existing river herring SFMP
- **Delaware**: proposed catch and release only regulations for Chesapeake Bay tributaries
- **North Carolina**: proposed changes to existing shad SFMP
- **South Carolina**: proposed changes to existing river herring and shad SFMPs, proposed Alternative Management Plan (AMP) for river herring
- **Georgia**: proposed changes to existing shad SFMP, proposed AMP for river herring
- **Florida**: proposed changes to existing shad SFMP, proposed AMP for shad river herring

AP Comments

Jeff Kaelin commented that most of the recommendations make sense. He asked if there is an estimated mortality rate for catch and release fisheries of shad and river herring, noting that this information would be important to consider.

Byron Young commented that he was troubled by the lack of data after 2015 available in the SC proposal for shad, and asked for more recent data to be provided. He also commented that NH's daily creel limit of 1 tote of river herring seemed too liberal. Mike Dionne clarified that this creel limit only applies to the Squamscott-Exeter system, where 80% of the state's river herring harvest occurs; there is no creel limit in the rest of the state. Byron also added that the aggregate creel limits for *Alosa* species in GA and FL may pose issues because the species are not easy to distinguish, and that the states should provide education to anglers.

Pam Lyons Gromen commented that the Alternative Management Plan proposals from SC, GA and FL are still somewhat concerning because the FMP is clear that an SFMP with quantitative sustainability metrics is required to allow either commercial or recreational harvest, so it would be most equitable for them to implement catch and release regulations for recreational fisheries if they cannot adequately monitor the fisheries. She added that without monitoring the states cannot be sure the level of harvest is sustainable. Amendments 2 and 3 give states a lot of latitude on how to create SFMPs. The AMPs as presented are not really alternative management programs, but more so justifications for why they should be able to maintain status quo harvest regulations without having the information to create an SFMP and monitor the fisheries. It does not seem fair that some states are following the FMP and have closed their fisheries when an SFMP is not provided, while other states have not.

Jeff Kaelin commented that the Commission and the TC should consider allowing states to have a limited personal use allowance so that individuals can take a few fish home to eat or for bait, rather than a complete moratorium. Other AP members agreed that ultimately the goal of restoring populations is to once again open up the opportunity for limited personal use harvest, however Ray Brown commented that in NC the generation that used to eat river herring are dying out, and the focus now should be on protecting river herring as part of the part of the food chain for other species. He added that he would be in favor, if it were biologically possible, to allow up to 12 river herring per person for personal use, but he would be very opposed to opening up for commercial harvest in NC, stating that the stock cannot withstand that. Jeff Kaelin also stated he would not advocate for reopening commercial fisheries.

Byron Young commented that in NY there was a small fishery for limited personal use, and when that was stopped, the fishermen understood because they were concerned about the resource. He added that he is now interested in restoring the resource so some people can take them, and there is a need to rebuild before we consider how many fish people should be allowed to take.

Mike Thalhauser commented that in Maine, they are leveraging the desire of some communities to take fish in order to restore the resource. He said the TC could recommend that some fisheries could be reopened if more data is collected, and that this could fill in a lot of information gaps along the coast. He stated that ASMFC has a duty to incentivize more data

collection for river herring and reconnect people with fish through education and citizen science. Opportunities should be created for people to get their hands on river herring by tying harvest to data collection.

Alison Bowden stated that she is sympathetic to the desire for a limited harvest allowance; in MA, are harvest records dating back to the 1600s and river herring are culturally very important. Because of this, people have made a big investment in keeping the fisheries closed so they can rebuild (in 2019 MA had 4 runs over 500,000 for the first time in decades—hoping that is the start of a trend). Towns used to get revenue from the fisheries, and that revenue helped them manage the run. If people can't use the resource, it is more difficult to sustain that stewardship. At the same time, the data says they are depleted and the objective is to bring them back to a place where they can be harvested *and* serve role in the ecosystem. She added that it is hard to view the AMPs as conservationally equivalent when there are other avenues: the alternatives are to have an SFMP or catch and release regulations. Allowing harvest by saying that there are not fish available and people are not taking them does not seem consistent with the goals of management; the regulations should just be catch and release.

Alison also said a good point was made about the connection between harvest and monitoring if the two are tied together with a system of stewardship, monitoring and take. If there is take, then there is an obligation to know what the impact of that take is. In the big open rivers in the southern states, monitoring that impact is more difficult, so the idea of the fisheries being open, unmanaged, and uncounted seems problematic.

All AP members supported the recommendations the TC provided to the Board on improvements to the FMP. Pam Lyons Gromen added that it seems, based on the 2019 Shad and River Herring Fishery Management Plan Review, that there is some inconsistency in how states are collecting and reporting bycatch information and that this is leading to problematic uncertainty in bycatch estimates; if the Board considers changes to the Amendments, this issue should also be considered. She also added that additional guidance on the Alternative Management Regimes could be more specific on incentivizing data collection in exchange for providing for a low level of personal harvest. Jeff Kaelin reiterated that he would like to see the TC continue to discuss the idea of allowing a low bag limit instead of catch and release only, because there is cultural value for these fisheries and there is some resentment due to some people getting to take fish but not others. Ray Brown agreed that there are positives associated with maintaining connections with the fishery through a small daily creel.

Atlantic States Marine Fisheries Commission

Executive Committee

August 5, 2020
8:00 – 10:00 a.m.
Webinar

Draft Agenda

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

1. Welcome/Introductions *(P. Keliher)*

2. Board Consent
   - Approval of Agenda
   - Approval of Meeting Summary from February 2020

3. Public Comment

4. Administrative Oversight Committee Report (*S. Woodward*) **Action**
   - Consider FY21 Budget
   - Consider Policy on Commission Contracts (*L. Leach)*

5. CARES Act Update (*R. Beal)*

6. Consider Management and Science Committee Recommendations Regarding Improvements to Advisory Panel and Public Input Process (*K. Knowlton/S. Murray)* **Action**

7. Update on Pennsylvania's Participation on the Atlantic Menhaden Management Board *(R. Beal)*

8. Consider Dividing the South Atlantic State/Federal Management Board into Two Management Boards *(R. Beal)*

9. Discuss Executive Director's Annual Performance Review (CLOSED SESSION)

10. Other Business/Adjourn

Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **Executive Committee**

FROM: **Toni Kerns, ISFMP Director**

DATE: **July 28, 2020**

The Commission's South Atlantic State/Federal Management Board (Board) is responsible for the management of 7 species: Atlantic cobia, spot, Spanish mackerel, red drum, black drum, Atlantic croaker, and spotted sea trout. The number of species managed under this Board has increased over time. The Board is made up of the states from Florida to New York but different states have declared interest in different species. For example, the states from New York to Florida have a declared interest in Spanish mackerel, New Jersey to Florida for Atlantic croaker, and Maryland to Florida for spotted seatrout. Due to the large number of species managed by this Board, the length of their meetings has increased in recent time. Depending on the species being discussed, several states on the Board will have "down time" until issues related to the relevant species are addressed in the agenda.

Both Atlantic cobia and Spanish mackerel have seen an increase in commercial harvest over the past three decades (Table 1`and 2). There has been an interest by some of the more northern states to declare an interest for one or both of these species but not for the sciaenids managed under the Board. In order to make the best use of Commissioner time and keep the meetings at reasonable lengths, staff is recommending to divide the board into two: the first a pelagics board managing Atlantic cobia and Spanish mackerel and second a sciaenids board managing spot, red drum, black drum, Atlantic croaker, and spotted sea trout.

Table 1. Commercial Atlantic Cobia Landings 1980-2019 (data source: ACCSP; C=confidential)

Year	MA	RI	CT	NY	NJ	DE	MD	PRFC	VA	NC	SC	GA
1980									1,400	5,128	C	497
1981									1,400	5,260	C	1,126
1982							100		2,000	10,574	C	2,304
1983									900	4,279	C	1,497
1984									1,900	6,701	C	2,570
1985	100						100		2,300	6,640	1,464	611
1986									1,200	18,303	3,690	2,561
1987				100					300	32,672	4,718	2,705
1988					100				5,700	15,690	5,224	1,924
1989					200		300		10,600	14,898	6,835	440
1990		194		17	1,649		431		16,532	21,938	1,802	1,367
1991					1,155		2,045		11,743	23,217	3,005	2,651
1992		157			1,037		1,882		6,110	18,534	6,925	2,187
1993		28			792		471		5,986	20,431	9,092	2,730
1994				165	483		C		7,817	30,586	5,488	2,483
1995		518		411	1,736		C		22,011	35,143	6,133	1,543
1996		C		C	2,295		C		C	33,404	4,483	675
1997		C		89	3,989		377		11,710	42,063	3,513	1,742
1998		C		60	2,853		C		13,419	22,197	C	C
1999		C		46	1,432		C		5,808	15,491	C	C
2000		C		101	1,762		C		7,525	28,754	2,974	C
2001		223		252	683		C		C	24,718	C	C
2002	C	C		70	2,086		C		11,445	21,058	5,007	C
2003		198		84	621	C	C		7,387	21,313	4,746	C
2004		C		758	576		211		6,143	20,162	4,014	705
2005		C		C	329		C		6,084	17,886	3,773	C
2006					C		48		2,705	20,270	2,405	C
2007		137		C	1,589		C		5,928	19,005	3,408	245
2008		C		C	C		C		6,755	22,047	3,016	C
2009	C	134		C	1,134		196		5,980	31,898	2,078	C
2010		C		C	270		C		8,504	43,715	2,499	C
2011		170		393.3	C		C		8,500	19,924	4,020	C
2012		217.3		152	699		C		5,382	31,972	3,359	C
2013		476		840.5	885	C	C		10,900	35,456	3,829	C
2014		C		311	359		C		21,255	41,798	3,492	C
2015		C		235	212		C		25,352	52,684	2,487	C
2016		183		114	282	C	C		29,459	48,244	4,064	C
2017		115		80	C	C	C		26,748	16,890	4,261	C
2018		290	C	388	707		C		21,355	16,578	2,723	C
2019		352		1191	1,367	C	C	2,375	31,647	21,553	2,447	C

Table 2. Commercial Spanish Mackerel Landing, 1980-2019 (data source: ACCSP; C=confidential)

Year	MA	RI	CT	NY	NJ	DE	MD	PRFC	VA	NC	SC	GA	FL
1980				100	600				8,300	75,306	6,769	1,491	9,811,053
1981				500	500				3,500	51,639	53	518	4,174,432
1982				1,000	200				12,700	189,217	C	745	3,758,603
1983	2,600	2,600		600	100				3,500	41,336	706		5,947,102
1984				300	100				10,000	127,467	1,321	C	2,397,373
1985				100					15,300	173,186	847	C	3,245,008
1986	600			3,200	1,500				168,400	232,197	6,375	1,335	3,256,777
1987	16,000	4,900		16,600	24,000		4,800		251,200	504,063	961	255	3,497,135
1988		3,400		19,200	16,900		4,300		291,600	438,222	1,029	726	3,071,687
1989	12,400	8,900		17,700	24,100		10,400		354,400	589,383	1,605	C	2,853,177
1990	6,585	5,530		24,329	28,336		43,411		491,651	838,914	284	491	1,978,819
1991	19,698	9,530		149,321	77,151		62,688		447,127	858,808	C	C	2,972,167
1992	608	2,277		31,873	51,751		37,930		271,313	738,362	1,952	71	2,028,703
1993	5	2,843		42,063	23,036		9,445		335,688	589,868	C	95	3,903,498
1994	C	893		124,733	19,915		3,363		376,818	531,371	362	C	3,098,336
1995		12,419	2	9,136	2,153		3,089		168,732	402,392	135	C	3,064,926
1996		2,523	8	17,980	40,821		C		283,750	401,839	236	C	2,244,667
1997	C	86		31,107	12,122		C		164,639	766,958	66	C	2,269,289
1998	C	109		37,238	13,242		C		121,109	372,415	160	C	2,498,458
1999	C	276		47,831	17,144		C		251,626	459,100		C	1,566,706
2000	C	188		35,825	11,757		C		C	659,726	192	C	1,675,458
2001	C	20,052		13,851	9,401	C	C		178,610	653,673		C	2,115,774
2002	C	C	3	18,741	11,196		20,725		102,417	698,448	9	C	1,994,195
2003	C	366		18,339	5,432		5,239		C	456,784	214	C	2,739,176
2004	C	5,971		16,921	3,060		4,881		66,979	456,242		C	3,065,324
2005	C	294		5,197	2,074	15	7,750		43,579	446,001		C	3,132,626
2006				C	301		418		C	470,662	C		3,141,531
2007		2,143		7,240	2,075		3,755		58,064	487,879	C	C	3,263,245
2008		162		2,512	1,210	C	7,136		153,576	415,405		C	2,262,504
2009		218	C	3,463	3,324	C	C		137,924	961,811			2,629,343
2010		522	C	3,712	829		4,939		47,441	911,866	C		3,551,357
2011		1,795	C	1,147	305		5,093		36,271	871,217			3,432,932
2012		2,135		2,293	2,806		3,634		18,317	916,439			2,596,917
2013	C	C	C	4,467	265		2,553		7,746	620,752			2,265,390
2014	C	43	C	2,550	292		1,644		7,859	673,974	C		2,585,281
2015		C		1,357	2,746		2,228		14,472	561,407	28		1,807,967
2016		C		813	1,997	C	16,209		33,091	601,526	133		2,461,178
2017	C	652		1,053	462		817		26,178	816,017	135		2,672,655
2018	C	951		1,283	950		3,112		23,988	796,890	C		2,926,282
2019		1,484	C	5,683	2,010	C	C		189,739	722,396	C	C	2,998,800

Atlantic States Marine Fisheries Commission

ISFMP Policy Board

August 5, 2020
10:30 a.m.-12:15 p.m.
Via Webinar

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)* 10:30 a.m.

2. Board Consent *(P. Keliher)* 10:30 a.m.
   - Approval of Agenda
   - Approval of February and July Proceedings, 2020

3. Public Comment 10:35 a.m.

4. Executive Committee Report (*P. Keliher*) **Possible Action** 10:45 a.m.

5. Progress Update on the Risk and Uncertainty Policy (*J. McNamee*) 11:00 a.m.

6. Committee Reports 11:35 a.m.
   - Assessment Science Committee (*S. Murray*) **Action**
   - Habitat Committee (*L. Havel*)
   - Atlantic Coast Habitat Partnership (*L. Havel*)

7. Review Non-Compliance Actions, If Necessary **Action** 12:00 p.m.

8. Other Business/Adjourn 12:05 p.m.

This meeting will be held via webinar, click here for details.
Sustainable and Cooperative Management of Atlantic Coastal Fisheries

MEETING OVERVIEW

ISFMP Policy Board Meeting
Wednesday August 5, 2020
10:30 a.m.-12:15 p.m.
Webinar

Chair: Pat Keliher (ME) Assumed Chairmanship: 10/19	Vice Chair: Spud Woodward (GA)	Previous Board Meetings: February 6 and July 14, 2020
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, DC, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS (19 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from February 6 and July 14, 2020

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

4. Executive Committee Report (10:45-11:00 a.m.) Possible Action

Background

- The Executive Committee will meet on August 5, 2020

Presentations

- P. Keliher will provide an update of the committee's work

5. Progress Update on the Risk and Uncertainty Policy (11:00-11:35 a.m.)

Background

- At the 2018 Winter Meeting, Commissioners participated in a workshop to explore a preliminary risk and uncertainty decision tool.
- The Policy Board tasked the Risk and Uncertainty Policy Workgroup with further refining the tool based on Commissioner feedback and consultation with the Striped Bass Technical Committee.

Presentations

- J. McNamee will review the draft Risk and Uncertainty Policy

Board discussion for consideration at this meeting

- None

6. Committee Reports Action (11:35 a.m. -12:00 p.m.)

Background

- The Assessment Science Committee had a conference call on May 20, 2020 to review the ASMFC Stock Assessment Schedule.
- The Spring 2020 Steering Committee meeting was held in May and reviewed the Fish Habitat Conservation Mapping Project, FY2020 funded projects, and 2020 endorsed projects.
- The Habitat Committee meeting was held in May. Since the meeting, the Committee finalized the aquaculture document and discussed the need for a policy on living shorelines impacts to SAVs

Presentations

- S. Murray will review changes to the Commission's stock assessment schedule
- L. Havel will present the ACFHP Report
- L. Havel will present the Habitat Committee Report

Board action for consideration at this meeting

- Approve the revised stock assessment schedule
- Task the Habitat Committee with drafting a policy on living shorelines impact on SAVs

8. Review Non-Compliance Findings, if Necessary Action

9. Other Business

10. Adjourn

2020 Management Track Peer Review Committee Report

Michael Wilberg[1] (chair), Ed Houde[1], and Fred Serchuk[2]

[1]University of Maryland Center for Environmental Science

[2]NOAA Northeast Fisheries Science Center (retired)

The Peer Review Committee (PRC) for Management Track Assessments met via webinar on June 22-25, 2020. Attendance at the meeting is provided in Appendix A. The PRC was asked to provide technical reviews of management track assessments for Atlantic herring (*Clupea harengus*), butterfish (*Peprilus triacanthus*), Atlantic surfclam (*Spisula solidissima*) and longfin inshore squid (*Doryteuthis (Amerigo) pealeii*). The assessments for these four species were prepared under guidelines prepared by 2020 Assessment Oversight Panel (AOP). These guidelines provide a pathway for continuing development of previously accepted assessments for each species including incorporation of the most recent data and understanding of biology of the species being assessed. The 2020 Assessment Oversight Panel considered Atlantic herring and butterfish to be Level 2 assessments and Atlantic surfclam and longfin squid as Level 3 assessments. As a result of this designation, the assessments for all four species required peer review.

We thank Russ Brown (Population Dynamics Branch Chief) and Michele Traver (Assessment Process Lead) for their support during the meeting. We thank the staff of the Population Dynamics Branch at NEFSC for the open and collaborative spirit with which they engaged the PRC. Our thanks extend not only to the analysts for each assessment, but also to the rapporteurs for taking extensive notes during the meeting. We also thank the other participants for helping make the meeting productive and collegial. Finally, the PRC thanks the staff at NEFSC for supporting the logistics during the meeting.

The PRC endorsed the assessments for all four species presented at the meeting for use in management. Analytical assessments were produced for Atlantic herring, butterfish, and Atlantic surfclam, each of which used a statistical catch-at-age model (Atlantic herring and butterfish) or a catch-at-age-and-length model (Atlantic surfclam). The assessment for longfin squid uses swept area biomass to estimate stock status. In each case the PRC endorsed the model and the inferences that resulted as representing the best scientific information available (BSIA), thereby providing a foundation for staff and the Mid-Atlantic and New England Fishery Management Councils and their SSCs to evaluate stock status and provide scientific advice.

Atlantic Herring

The 2020 assessment update for Atlantic herring is a Level 2 assessment in accord with the decision at the 29 April 2020 meeting of the AOP. The 2020 assessment is an update from the 2018 benchmark assessment (SAW 65) that used an ASAP modeling framework.

The PRC concludes that the 2020 assessment update for Atlantic herring is technically sufficient to evaluate stock status and provide scientific advice. The assessment represents BSIA for this stock for management purposes. The PRC agrees with the assessment report that the Atlantic herring stock is overfished and overfishing is not occurring. This is a change in status from the results of the 2018 benchmark assessment that indicated that the stock was not overfished and overfishing was not occurring.

The 2020 assessment used different methods to derive biological references points (BRPs) and conduct short-term projections than those in the 2018 benchmark assessment. The BRPs in the 2020 assessment were derived using only the selectivity of the mobile fleet (exclusively a USA fleet) because the fixed gear fleet (>90% Canadian) is not quota regulated and not subject to the same harvest control rules as the USA mobile fleet. However, the short-term

projections included catches from both fleets to ensure that the stock dynamics and probability of overfishing and overfished were still subject to the total stock harvests.

Terms of Reference (TOR)

1. Estimate catch from all sources including landings and discards.

This TOR was satisfactorily addressed. Landings and discard data from 2018 and 2019 were added to those used in the 2018 benchmark. Because Canadian fixed gear catches markedly increased in 2018 (11,912 mt) and remained high in 2019 (5,115 mt) while USA mobile catches declined (45,189 mt in 2018; 12,721 mt in 2019) due to regulatory changes, the percent of the annual total catch taken by the Canadian fishery significantly increased to 21% in 2018 and 29% in 2019. From 2012 to 2017, Canadian catches accounted for between 1% and 7% of the annual total catches.

The age compositions of catches from the two fleets also differ. The USA mobile fleet primarily harvests fish that are age 3 and older, while the Canadian fixed gear fleet generally harvests herring that are age 2 and younger (although in 2019, age 3 fish were also caught).

2. *Evaluate indices used in the assessment (e.g., indices of relative or absolute abundance, recruitment, state surveys, age-length data, etc.).*

This TOR was satisfactorily addressed. All four of the survey indices used in the benchmark assessment (NEFSC spring bottom trawl survey, NEFSC fall bottom trawl survey, NEFSC shrimp bottom trawl survey, and the NEFSC fall survey acoustic index) were updated through 2019. As well, survey age composition and age-length data were updated through 2019 from the NEFSC spring and fall surveys. Age data from the summer shrimp survey were collected for the first time in 2019.

Trends in relative abundance of herring from all four surveys indicate a substantial decline in stock abundance during the past few years. All four of the survey indices in 2019 were at or near record-low values. The most relevant Canadian assessments of the stock show similar trends in abundance.

Although the surveys do not efficiently catch age-0 or age-1 fish, they do track cohorts well from age 2 onwards and thereby provide information on year class strength.

3. *Estimate annual fishing mortality, recruitment and stock biomass (both total and spawning stock) as possible (depending on the assessment method) for the times series using the approved assessment method and estimate their uncertainty. Include retrospective analyses if possible (both historical and within-model) to allow a comparison with previous assessments, and to examine model fit.*

a. Include bridge runs to sequentially document each change from the previously accepted model to the updated model proposed for this peer review.

b. Prepare a "Plan B" assessment that would serve as an alternate approach to providing scientific advice to management if the analytical assessment were to not pass review.

This TOR was satisfactorily addressed. The same ASAP model configuration used in the 2018 benchmark assessment was used in the 2020 update. Diagnostic and residual patterns were evaluated for all of the model input data (fleet catches, fleet age compositions, survey abundance indices and age compositions), as well as for the estimates of fishing mortality, biomass, spawning stock biomass, and recruitment. The diagnostic and residual patterns were acceptable (i.e., residuals generally randomly distributed) and similar to those in the 2018 benchmark assessment.

No retrospective adjustments were needed in the assessment. A Plan B assessment was not necessary because the model-based assessment was accepted.

4. *Re-estimate or update BRP's as defined by the management track level and recommend stock status. Also provide quantitative descriptions of stock status based on simple indicators/metrics (e.g., age-size-structure, temporal trends in population size or recruitment, indices.).*

This TOR was satisfactorily addressed. BRPs were re-estimated in the 2020 assessment using only the selectivity of the USA mobile fishing fleet and exclude any mortality from the catches from the unregulated Canadian fixed gear fleet. This is likely to result in biased reference points to an unknown degree, but there are no widely accepted methods for calculating BRPs when one of the fleets is not controlled. The fixed gear catches are treated as management uncertainty and a risk issue that needs to be addressed by managers. In essence, the re-estimated BRPs are US-based reference points and allow stock status relative to these reference points to be affected by Canadian fixed gear catches, which are unregulated and outside of US control.

The re-estimated BRPs are the following:

F_{msy} proxy = 0.54; SSB_{msy} proxy = 269,000 mt; SSB threshold (1/2 SSB_{msy}) = 134,500 mt; MSY = 99,400 mt.

An F40% proxy was used for the overfishing threshold and the SSB proxy reference points are based on long-term stochastic projections.

Estimated spawning stock biomass has been declining since 2014 (when SSB was 317,080 mt) and in 2019 was estimated to be 77,883 mt, the lowest value since the late 1980s. The 2019 SSB is 29% of the SSB_{msy} value (269,000 mt) and below the SSB threshold. Therefore, the stock is now overfished.

Fishing mortality (F) on the fully-recruited age groups to the USA mobile fleet (ages 7-8) has markedly declined since 2010, and F in 2019 was estimated to be 0.25, the lowest value since the early 1990s, and well below the overfishing threshold F_{msy} proxy value (0.54). Therefore, overfishing is not occurring

Recruitment has shown high variability over the past 50+ years, which is attributed to the episodic nature of herring recruitment. Since 2013, recruitment has declined to record-low levels. Median age 1 recruitment in the stock is 3.43 billion fish at age 1. Recruitment of age 1 fish in 2019 was estimated to be 666 million fish.

5. *Conduct short-term stock projections when appropriate.*

This TOR was satisfactorily addressed. Short-term (2021-2023) projections were conducted using the harvest control rule described in Amendment 8 of the Atlantic Herring Fishery Management Plan as applied solely to the US mobile gear fleet. Annual catches by the Canadian fixed gear fleet were assumed to be constant at 4,778 mt, the sum of the 10-year (2010-2019) averages of the Canadian (4,669 mt) and US (109 mt) fixed gear catches. For 2020, the total catch was assumed to be 16,319 mt, resulting in an SSB of 56,375 mt and F=0.243 for the US mobile gear fleet.

6. *Respond to any review panel comments or SSC concerns from the most recent prior research or management track assessment.*

This TOR was satisfactorily addressed. However, several uncertainties exist in the stock assessment. These include:

- There is uncertainty in the natural mortality rate (M), which is assumed in the assessment to be constant among ages and years. This assumption is common in stock assessments of many fish species because studies to determine natural mortality rates in exploited fish populations are difficult to conduct. Some insight on M for herring might be gained from the results of multispecies models that incorporate prey and predator relationships.
- The projections are uncertain because (1) recruitment in 2019 is imprecisely estimated and (2) recruitment in 2022 was drawn from the CDF of the long-term recruitment estimates, which results in a mean value about

equal to the long term average. The PRC notes that achieving mean recruitment is unlikely given the very low recruitment estimates in the most recent years.

- Continued poor recruitment will be the principal factor influencing stock status in the near future, as fishing mortality is now low compared to historical levels.

Recommendations

1. Because acoustic methods are regularly used to survey and assess herring stocks in other areas of the world, use of a dedicated acoustic survey should be explored further.
2. The reference points assume an absence of fixed gear fishing, which means that fishing at the $F_{40\%}$ rate would not be expected to achieve $SSB_{40\%}$. The panel suggests modifying the current approach to include the effect of catches in the fixed gear fleet. For example, the SSB reference points could be modified to also estimate the F reference point. The approach would involve conducting long-term projections of the population under different assumptions of mobile gear F. The fixed gear catches would remain the same as in the current approach. The unfished condition would have the mobile gear F = 0 and the fixed gear catch = 0. A grid search over the mobile gear F could be used to find the mobile gear F that achieves 40% of the unfished SSB. The PRC recommends attempting this approach for the next management track or research track stock assessment.

draft working paper for peer review only

Atlantic Herring

2020 Assessment Update Report

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

Compiled June 2020

This assessment of the Atlantic Herring (Clupea harengus) stock is a management track assessment of the existing 2018 benchmark ASAP assessment (NEFSC 2018). Based on the previous assessment, the stock was not overfished and 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 through 2019. The methods used for short-term projections have changed from the previous assessment. More specifically, the projections now explicitly include two fishing fleets, mobile and fixed gears, consistent with the ASAP assessment. A supplementary document detailing the changes to the projection methodology has been provided.

State of Stock: The methods used to derive biological reference points and conduct short-term projections were changed as part of this management track assessment and details are provided in a supplementary document. Briefly, the reference points were calculated using only the selectivity from the mobile fishing fleet with no inclusion of mortality from the fixed fleet, which is likely to result in biased reference points to an unknown degree. No widely accepted methods for calculating reference points exist, however, in a multifleet context, especially when one of the fleets is that of a foreign country and is not controlled with quotas. Using an aggregated selectivity that combines the mobile and fixed fleets for reference points and projections, as in previous assessments (NEFSC 2018), was also problematic because the resulting projections either produced an unrealistic catch-at-age that allotted far too much catch to the fixed fleet, or assumed that the fixed fleet was subjected to the same harvest control rule as the mobile fleet, which is also incorrect. Note, however, that although the reference points were calculated using only the mobile fleet selectivity, short-term projections included fixed fleet catches such that stock dynamics and probability of overfishing and overfished were still affected by this source of mortality. Based on this management track assessment, the Atlantic Herring (*Clupea harengus*) stock is overfished and overfishing is not occurring (Figures 1-2). Retrospective adjustments were unnecessary. Spawning stock biomass (SSB) in 2019 was estimated to be 77,883 (mt) which is 29% of the biomass target (SSB_{MSY} *proxy* = 269,000; Figure 1). The 2019 average fishing mortality for ages 7-8 (fully selected ages for the mobile fleet) was estimated to be 0.25267 which is 47% of the overfishing threshold proxy (F_{MSY} *proxy* = 0.543; 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.

	2012	2013	2014	2015	2016	2017	2018	2019
				Data				
US Catch	87,171	95,191	93,084	81,204	62,597	48,796	45,527	12,782
Canadian Catch	504	6,431	2,149	146	4,060	2,103	11,574	5,054
Total Catch	87,675	101,622	95,233	81,350	66,657	50,899	57,101	17,836
				Model Results				
Spawning Stock Biomass	240,920	202,410	317,080	256,880	170,720	133,700	90,765	77,883
$\bar{F}_{7-8}$	0.60885	0.66113	0.51489	0.47881	0.47538	0.46961	0.5727	0.25267
recruits (age1)	6,689,400	1,579,000	1,509,600	809,350	283,230	983,810	407,910	666,050

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.

	2018	2020
F_{MSY} *proxy*	0.51	0.54
SSB_{MSY} (mt)	189,000 (corrected 266,000)	269,000 (155,699 - 444,290)
MSY mt	112000 (corrected 100,011)	99,400 (62,644 - 151,814)
Median recruits (age 1)	3,449,817,600	3,430,614,650 (915,478,855 - 10,132,087,450)
Overfishing	No	No
Overfished	No	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 4,778 mt. This fixed gear catch equals the sum of the ten year (2010-2019) averages of the Canadian (4,669 mt) and US (109 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.

Table 3: Projection results. See above and supplementary document for details.

Year	Catch mt	SSB (mt)	$\bar{F}_{7-8}$
2020	16,319	56,375	0.243

Year	Catch mt	SSB (mt)	$\bar{F}_{7-8}$
2021	9,483	48,841	0.119
2022	8,767	45,921	0.089
2023	11,025	130,616	0.077

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).

  While not an uncertainty from a statistical estimation standpoint, 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 did not have a retrospective pattern, or at worst the pattern was minor.

- 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. Terminal year, 2019, recruitment was imprecisely estimated with a CV > 2.0, which contributes to relatively large uncertainty bounds. Likwise, recruitment in 2022 is assumed to approximately equal average recruitment, which may be unlikely given recent estimates. For additional projection details, see the supplemental document.

- Describe any changes that were made to the current stock assessment, beyond incorporating additional years of data and the effect these changes had on the assessment and stock status.

  No changes, other than the incorporation of new data, were made to the Atlantic Herring assessment.

- 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. The change from not overfished to overfished was anticipated based on previous projections.

- 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 previous retrospective patterns. While this assessment did not have a retrospective pattern, the pattern may reemerge (NEFSC 2018). 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.

- 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.

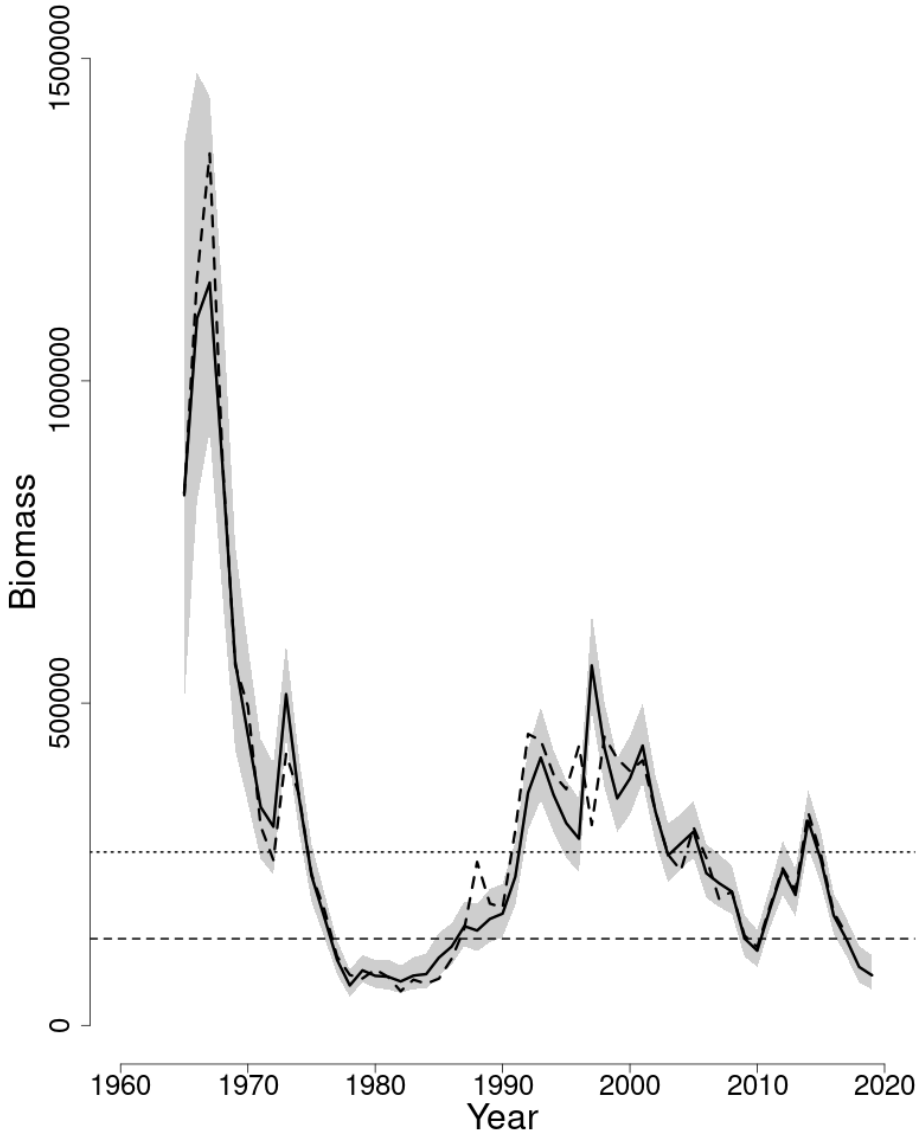


Figure 1: Trends in spawning stock biomass of Atlantic Herring between 1965 and 2019 from the current (solid line) and previous (dashed line) assessment and the corresponding $SSB_{Threshold}$ ($\frac{1}{2}$ SSB_{MSY} *proxy*; horizontal dashed line) as well as SSB_{Target} (SSB_{MSY} *proxy*; horizontal dotted line) based on the 2020 assessment. The approximate 90% confidence intervals are shown.

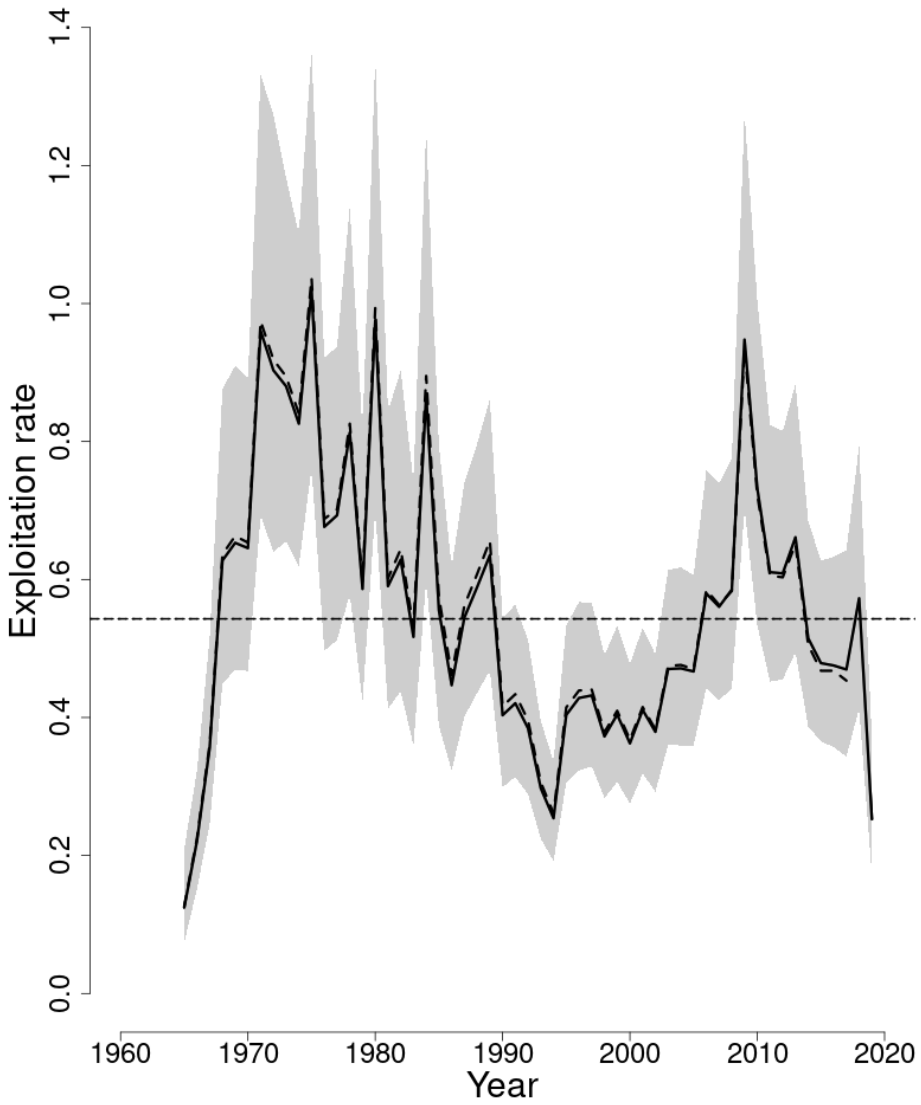


Figure 2: Trends in the average fishing mortality rate for ages 7-8, which are fully selected by the mobile fleet ($\bar{F}_{7-8}$), between 1965 and 2019 from the current (solid line) and previous (dashed line) assessment and the corresponding $F_{Threshold}$ (F_{MSY} *proxy*=0.543; horizontal dashed line). The approximate 90% confidence intervals are shown.

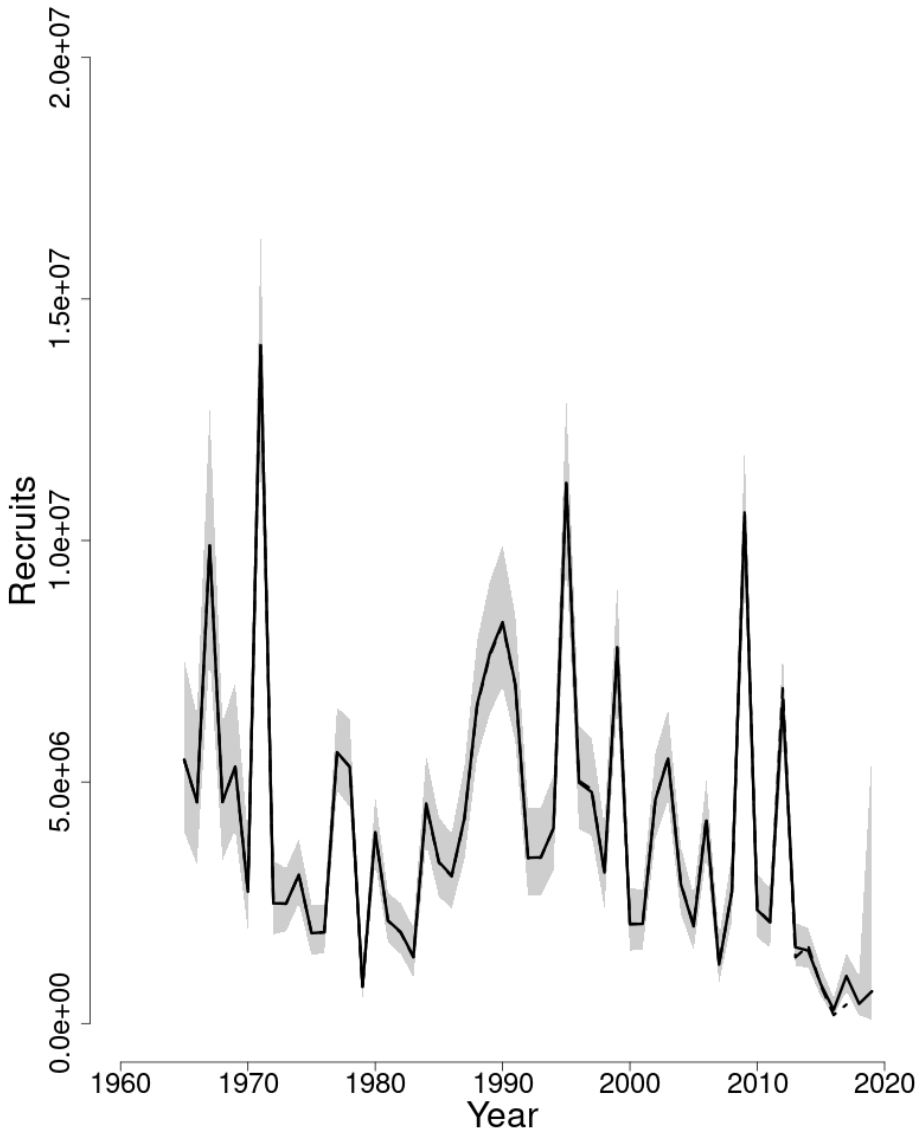


Figure 3: Trends in recruits (age-1)(000s) of Atlantic Herring between 1965 and 2019 from the current (solid line) and previous (dashed line) assessment. The approximate 90% confidence intervals are shown.

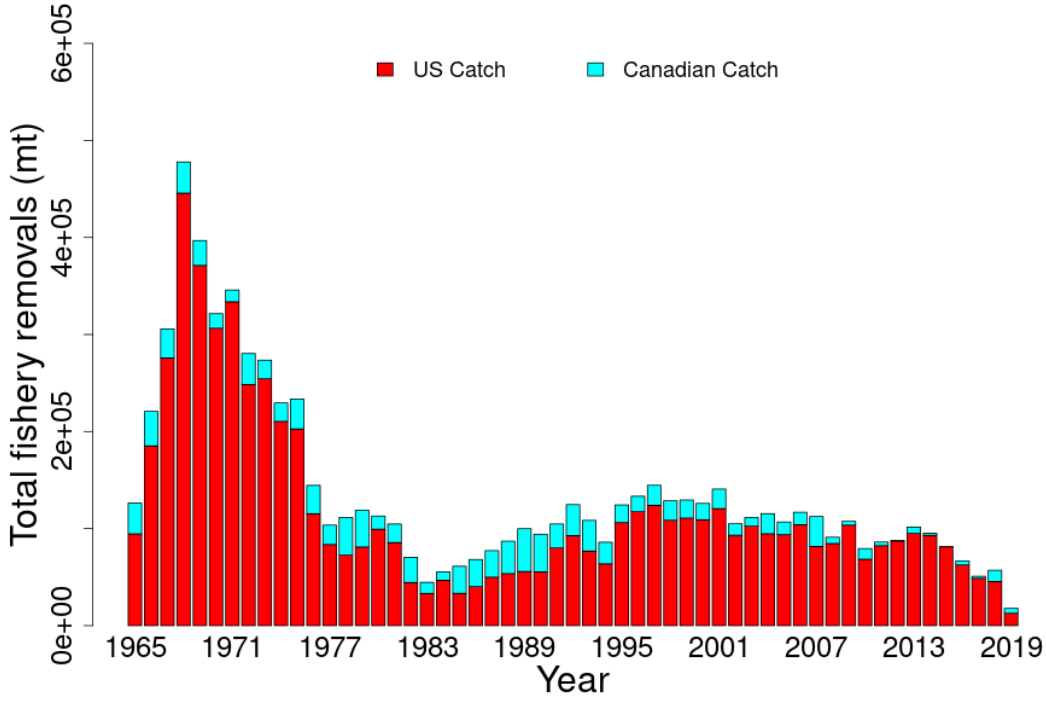


Figure 4: Total catch of Atlantic Herring between 1965 and 2019 by US and Canadian fleets.

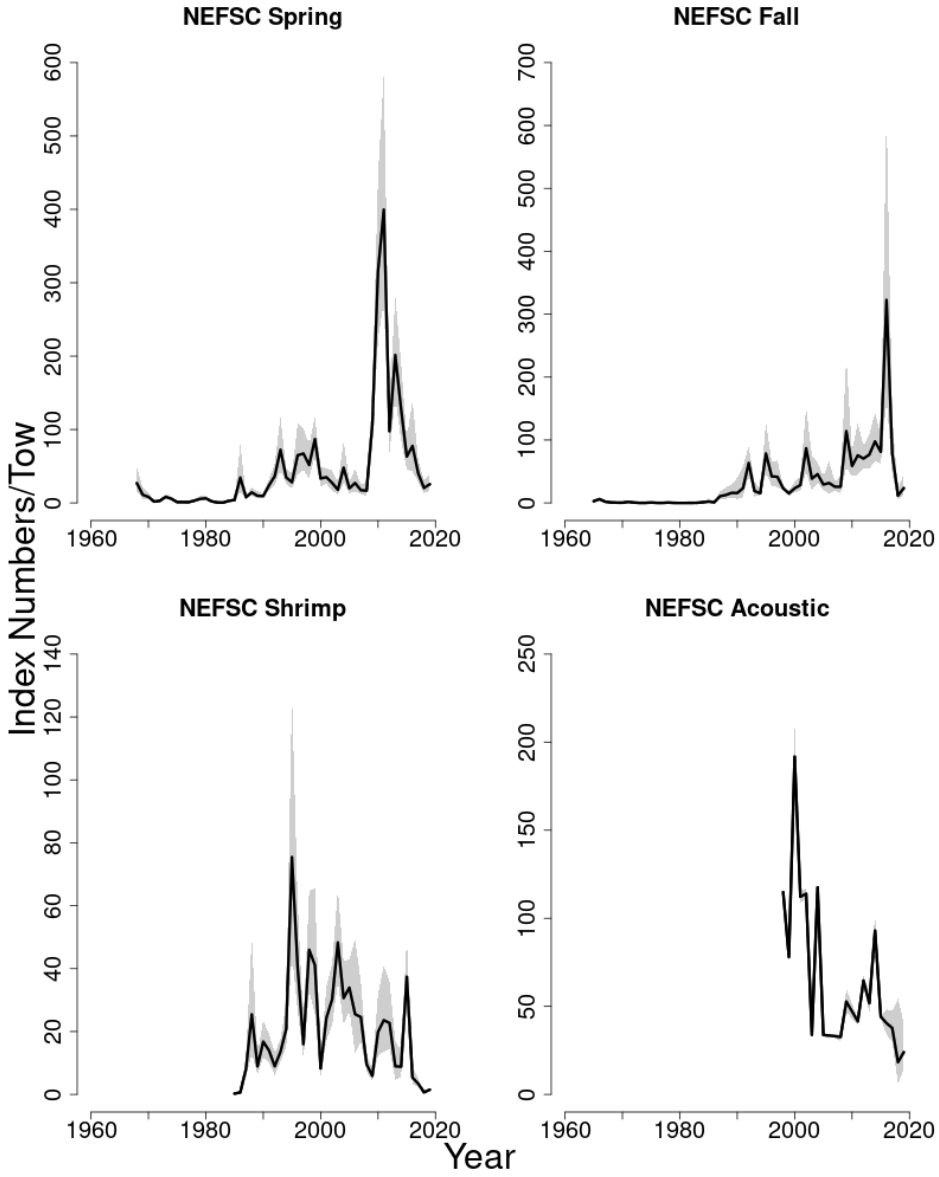


Figure 5: Indices of abundance for Atlantic Herring between 1965 and 2019 for the Northeast Fisheries Science Center (NEFSC) spring, fall, and shrimp bottom trawl surveys. The NEFSC acoustic index is collected during the fall bottom trawl survey and is in units of acoustic backscatter, not absolute numbers. The approximate 90% confidence intervals are shown.

A Detailed Description of Changes to Projection Methodology for the Atlantic Herring Management Track Assessment: 2020

Jonathan J. Deroba

Overview of the Methods Used in the 2018 Benchmark Assessment

No stock-recruit relationship was able to be estimated in the base ASAP model, therefore $F_{40\%}$ was used as a proxy for F_{MSY} and long-term projections were used to derive other MSY BRP proxies. The average of the last five years (2013-2017) of weights at age and maturity at age were used to calculate $F_{40\%}$ and in long-term projections. The base ASAP model has two fishing fleets, a mobile fleet that is an entirely US fishery, and a fixed gear fleet that is almost (~$\geq$ 90%) entirely Canadian. The two fleets have different selectivity patterns (Figure 1). These two selectivity patterns were aggregated into one in order to define reference points. This aggregation was achieved by summing the year specific F-at-age for each fleet to define a year by age sized matrix of total F. The average of the last five years of total F-at-age was calculated, and this vector was normalized to have a maximum of 1.0. This normalized vector served as the aggregated selectivity pattern, and was generally similar to the mobile fleet selectivity given that this fleet accounts for most of the catch in those years (Figures 1-2). Recruitment in each year of the projections was drawn from the empirical cumulative distribution of the estimated recruitments from 1965-2015. The estimates of recruitment from 2016-2017 were excluded because they were imprecisely estimated with CVs equal to 95% and 251%, respectively (as a point of comparison the CV for 2015=38%). In drawing recruitments from the empirical distribution, a uniform random value is drawn between 0-1 each year, and the recruitment associated with that probability from the cumulative distribution is applied. Thus, any recruitment between the minimum and maximum in the estimated time series has an equal probability of selection each year. F_{MSY} proxy = 0.51, SSB_{MSY} proxy = 189,000 mt (½ SSB_{MSY} = 94,500 mt), and MSY proxy = 112,000 mt.

Updating the 2018 Benchmark Approach for the 2020 Management Track

Updating the 2018 Benchmark projection approach for the 2020 assessment resulted in a larger than anticipated change in reference points. F_{MSY} proxy = 0.38, SSB_{MSY} proxy = 271,000 mt. The change in SSB_{MSY} proxy was caused by an error in calculating this value in 2018. The error involved using the incorrect selectivity pattern (i.e., a copy/paste mistake) for long-term projections used to determine SSB_{MSY} proxy. The 2018 SSB_{MSY} proxy value should have been 266,000 mt. Had SSB_{MSY} proxy been correctly calculated in 2018, the overall overfished and overfishing conclusions would not have changed, but the stock would have been closer to an overfished status than previously thought (SSB_{2017}/ SSB_{MSY}

proxy = 0.75 with the incorrect value, but 0.53 with the corrected value). The change in F_{MSY} proxy, however, was driven by a shift in the aggregated selectivity pattern of the mobile and fixed gear fleets. Typically, the fixed fleet accounts for 1-7% of the total catch, but in 2018-2019, the fixed gear fleet was responsible for 21-29% of the total (Table 1). Thus, the fixed gear fleet was responsible for a larger proportion of the total F, and the process used to estimate an aggregated selectivity pattern between the fishing fleets resulted in a shape increasingly representative of the fixed gear fleet, particularly at younger ages (Figure 3).

Management Approach and Consequences

An OFL and ABC are specified using short-term projections. For Atlantic herring, the ABC is reduced for management uncertainty, which includes some reduction based on anticipated fixed gear catch. Typically, a recent average of Canadian fixed gear catch is deducted from the ABC to establish the (US) Domestic Allowable Harvest, or annual catch limit (ACL). The implicit assumption of the existing projection methodology is that the aggregated selectivity pattern used for projections will produce an ABC that includes approximately the same amount of fixed gear catch that will later be defined by managers and deducted from the ABC. This assumption, however, is not necessarily true, and will be violated to varying degrees depending on projected cohort strength and how well realized Canadian catches match a recent average. If the aggregated selectivity pattern is largely reflective of the mobile fleet, then this inconsistency between implied fixed gear catch in projections and that defined as management uncertainty is likely of little consequence. The aggregate selectivity pattern as updated for the 2020 management track, however, does not resemble the mobile fleet. The consequence is that the implied amount of fixed gear catch would likely be overestimated (e.g., because age-2 fish are ~50% selected) and larger than what would typically be deducted for management uncertainty. This process would produce a Domestic Annual Harvest or ACL that is overly inflated by projected catches of relatively young fish that the US mobile fleet generally does not catch. In short, the reference points produced by updating the herring assessment using the existing projection method from the 2018 assessment, and projected catches based on those reference points, would be unduly affected by the selectivity of a foreign fleet. Thus, the existing projection methodology is inappropriate.

Proposed Solution

The proposed solution was to base reference points on the mobile fleet selectivity pattern only. More specifically, $F_{40\%}$ as calculated using the mobile fleet selectivity was used as a proxy for F_{MSY}, and long-term projections were used to derive other MSY BRP proxies. The average of the last five years (2015-2019) of weights at age and maturity at age were used to calculate $F_{40\%}$ and in long-term

projections. Recruitment was handled in projections as before. Recruitment in each year of the projections was drawn from the empirical cumulative distribution of the estimated recruitments from 1965-2017. The estimates of recruitment from 2018-2019 were excluded because they were imprecisely estimated with CVs equal to 58% and 210%, respectively. In drawing recruitments from the empirical distribution, a uniform random value is drawn between 0-1 each year, and the recruitment associated with that probability from the cumulative distribution is applied. Thus, any recruitment between the minimum and maximum in the estimated time series has an equal probability of selection each year. F_{MSY} proxy = 0.54, SSB_{MSY} proxy = 269,000 mt, (½ SSB_{MSY} proxy = 134,500 mt), and MSY proxy = 99,400 mt.

Short-term projections will include two fleets, mobile and fixed gear, consistent with the previous stock assessment. In all short-term projections, fixed gear catches will be specified as some constant amount in each year. The fixed gear catch amount will be specified by managers, just as before, and may still be considered management uncertainty. OFL will equal the sum of the mobile fleet catches that result from the mobile fleet fishing at F_{MSY} proxy and the specified fixed gear catch. ABC will equal the sum of mobile fleet catches that result from applying the NEFMC's selected harvest control rule and the specified fixed gear catch. The probability of overfishing would be based on comparing the projected, fully selected, mobile fleet fishing mortality rate to F_{MSY} proxy, while probability of overfished would be calculated as under the existing approach (noting that SSB_{MSY} proxy is based exclusively on the mobile fleet selectivity). While the probability of overfishing would be based on comparing the projected, fully selected, mobile fleet fishing mortality rate to F_{MSY} proxy, the OFL (defined as above, summed across both fleets) would represent the catch that if exceeded would result in overfishing.

This proposed solution removes the influence of a foreign fleet, which is not currently managed using catch limits, on reference points developed to manage the US Atlantic herring fishery. This approach should also stabilize reference points in future assessments because the reference points will no longer change in relationship to the relative amount of catch from each fleet. By using two fleets for short-term projections, the catch of the fixed gear fleet will still affect probability of overfishing and overfished. The amount of fixed gear catch specified in short-term projections will now also be explicit, as opposed to an implicit amount under the previous approach.

Managers have not yet decided on a level of management uncertainty and fixed gear catch, but example projection results are provided in Table 2. In this example projection, the mobile fleet fishing mortality was specified by applying the harvest control rule defined in Amendment 8 of the herring

fishery management plan. Fixed gear catches were set equal to their 10-year averages (2010-2019). Note that the projection values are unofficial and may change based on additional assessment changes or management decisions.

Table 1. Herring catches by fleet and the % of the total catch attributable to the fixed gear fleet.

	Mobile	Fixed	%Fixed
2012	87162	513	0.006
2013	95182	6440	0.063
2014	92566	2667	0.028
2015	80465	884	0.011
2016	61808	4849	0.073
2017	48531	2368	0.047
2018	45189	11912	0.209
2019	12721	5115	0.287

Table 2. An example projection table using the short-term projection methodology proposed as part of the 2020 Management Track.

Canadian Catch = 4669 mt; US Fixed Fleet (i.e., stop seine, weir, and pound nets) = 109 mt

	Mobile Fleet F	SSB	P(overfishing)	P(overfished)	OFL	ABC	SSB/SSBmsy
2020	0.243	56375	0.002	0.999	–	–	0.210
2021	0.119	48841	0.000	0.932	23423	9483	0.182
2022	0.089	45921	0.000	0.903	26292	8767	0.171
2023	0.077	130616	0.000	0.525	44600	11025	0.486

Figure 1. Fleet specific selectivity as estimated by the 2018 Benchmark stock assessment ASAP model.

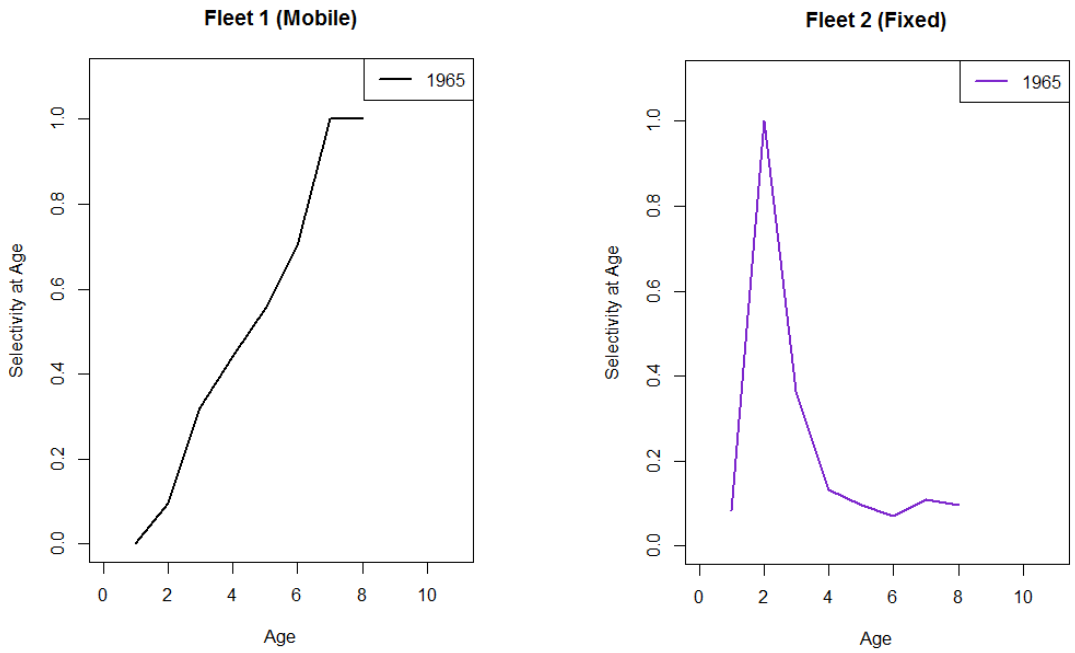


Figure 2. The selectivity pattern used to define reference points during the 2018 Benchmark stock assessment.

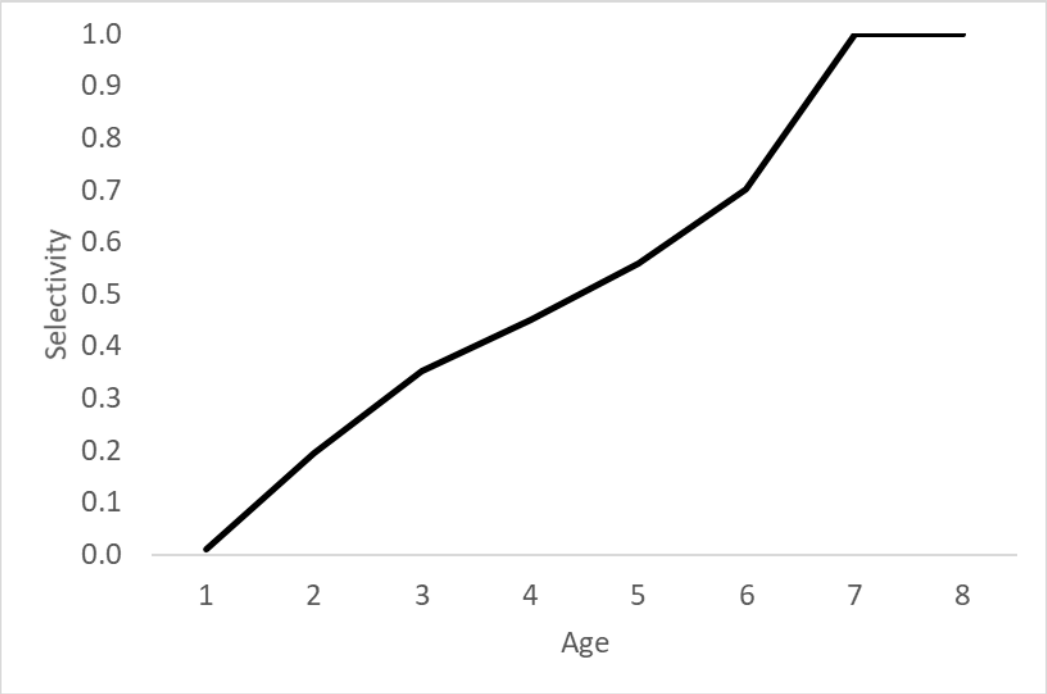
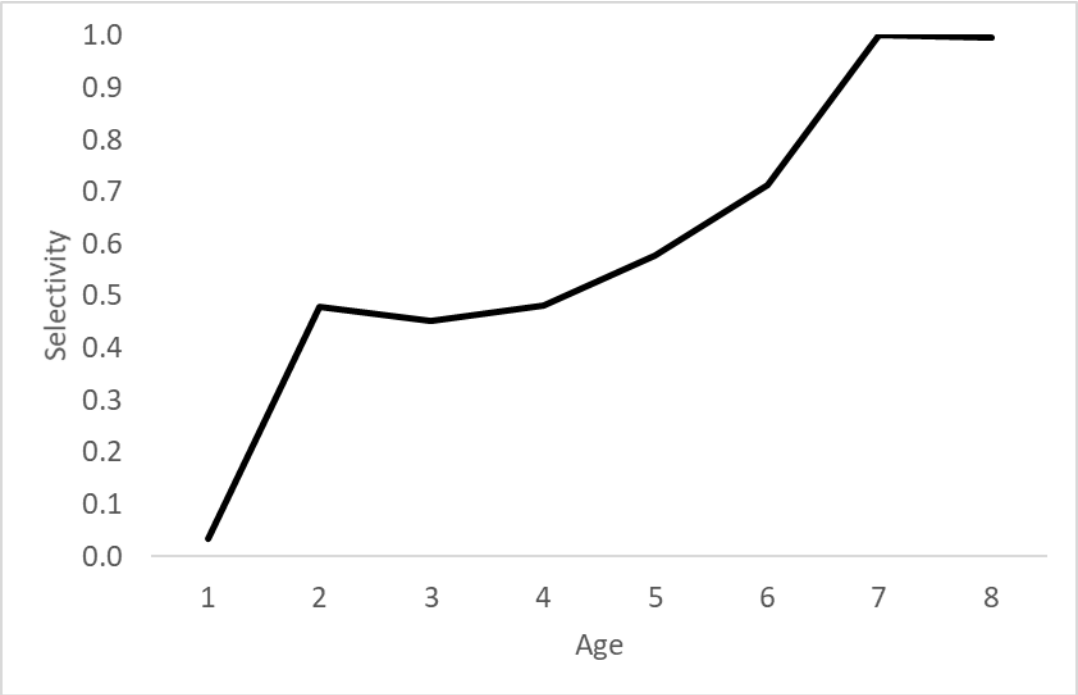


Figure 3. The aggregate selectivity pattern between the mobile and fixed fleets as updated in the 2020 Management Track assessment.



Bluefish Allocation and Rebuilding Amendment

FMAT/PDT Meeting: July 14, 2020, 9:00 a.m. - 12:00 p.m.

Meeting Summary (Dated: July 27, 2020)

This document is part of a joint management action being considered by ASMFC and MAFMC. It was developed through the combined efforts of ASMFC's Plan Development Team (PDT) and MAFMC's Fishery Management Action Team (FMAT). For ease of readability, both groups will be referred to as FMAT throughout the document.

The objective of this meeting was for the Fishery Management Action Team (FMAT) to further refine draft alternatives, including incorporation of Council/Board input and identifications of alternatives that should not be further pursued in this action. The FMAT discussed the implications of each draft approach and worked to identify additional analyses needed to guide the Council/Board during their next discussion of this action in August. The Council/Board are scheduled to approve draft alternatives for inclusion in a public hearing document in December.

All alternative sets have been further developed using the direction provided by the Council/Board and are discussed within this document. However, this document predominantly focuses on the recommendations and direction provided by the Council/Board at the joint June 2020 meeting to further develop specific alternative sets for this Amendment.

FMAT members present: Ashleigh McCord (GARFO), Cynthia Ferrio (GARFO), Matt Cutler (NEFSC), Samantha Werner (NEFSC), Tony Wood (NEFSC), Mike Celestino (NJ DFW), Dustin Colson Leaning (ASMFC Staff), and Matthew Seeley (MAFMC Staff)

Others present: Mike Waine (ASA), Rusty Hudson (DSF), Hannah Hart (FL FWC), Chris Batsavage (NC DMF), James Fletcher (UNFA), Kiley Dancy (MAFMC Staff), and Jose Montanez (MAFMC Staff)

Contents

1. Fishery Management Plan Goals and Objectives

The Council/Board made no changes at the joint June meeting. See Section 1 of the FMAT summary from June 2020 for the updated FMP Goals and Objectives.

FMAT Comments/Recommendations on Issue 1

The FMAT discussed the status of the proposed FMP Goals and Objectives but did not offer any revisions at this meeting. The FMAT will continue to revise the proposed FMP Goals and Objectives upon more input from the Council/Board, if necessary.

2. Commercial and Recreational Sector Allocations

The Council/Board removed the NEFSC discard estimates and endorsed the MRIP discards estimates (previously referred to as the "GARFO method") at the joint June meeting. They also recommended further development of the phase-in and trigger approaches to developing alternatives. See Section 2 of the FMAT summary from June 2020 for the updated sector allocations.

Phase-in Approaches

Phasing in allocation changes would allow for the commercial/recreational allocation percentages to adjust slowly over time starting with the status quo percentage listed in Table 1 and ending with an alternative set of allocation percentages. Considering the current recreational allocation is at 83% and an increase to 89% (the largest proposed increase) represents less than a 10% increase in allocation, a phase-in approach may not be necessary from at least the recreational fishery perspective. Furthermore, the FMAT previously indicated that phasing in allocation changes could be challenging to coordinate during a rebuilding period that has the potential to already be complex and destabilizing.

Table 1. Recreational and commercial sector allocation alternatives based on catch data

Alternative	Allocation Time Series	Recreational Allocation	Commercial Allocation
Status quo	1981-1989 (Landings-based)	83%	17%
2.02	5 year (2014-2018)	89%	11%
2.03	10 year (2009-2018)	89%	11%
2.04	20 year (1999-2018)	87%	13%
2.05	Full Time Series (1981-2018)	86%	14%

Trigger Approaches

Table 1 above provides the sector allocation alternatives under the proposed time series. If a trigger-based approach to setting allocations is selected, these allocations could shift slightly if the ABC surpasses a specified threshold. The breakdown of sector allocations after the ABC exceeds a threshold is yet to be determined. See "Discussion Points/Questions" below.

Discussion Points/Questions

- Phase-in
    - Phasing-in allocation changes could take place over any number of years, but does 2-5 years represent a reasonable range of alternatives?
    - Does the FMAT still support removal of this alternative given the concerns listed above?
    - Are there examples of when the phase-in approach is necessary or would be supported for changes to the recreational and commercial allocations?
- Trigger
    - What level should the trigger threshold be set at?
        - Analyses? Recent ABCs to establish a trigger?
        - What would an ABC look like if the stock rebuilds to the 2019 target?
            - Is this a reasonable basis for developing a trigger level?
    - What should the sector allocation shares be after a trigger threshold level is exceeded?
        - One potential alternative: Recreational sector receives a larger share of the quota above the trigger level. This could be justified by the reasoning that the commercial sector may only need so much quota at high biomass levels (e.g. market saturation).

FMAT Comments/Recommendations on Issue 2

Phase-in

The FMAT discussed the ability to phase-in new allocations for the commercial and recreational sectors. All of the proposed allocation alternatives decrease the commercial allocation and increase the recreational allocation. The commercial sector is already working with a reduced quota following the overfished designation and the resultant lower ABC. If the commercial allocation is further reduced by this amendment, it could be less economically damaging to phase-in allocation changes while the stock rebuilds. However, the FMAT noted that phasing in allocation changes are not warranted from the recreational perspective because an increased landings limit would allow for more flexibility within the recreational sector.

The FMAT acknowledged that big changes to the commercial sector allocation and state quotas will have an especially profound effect on commercial fishermen that target bluefish using gillnet gear. If quotas in their states become restrictive, they may be forced to target different species or change gear. This may create substantial economic hardship. A phase-in approach may mitigate these negative impacts by shifting allocations from one sector to another over a longer period of time with the goal of minimizing economic burden. The FMAT noted that it could be worth considering phasing in allocations if any major allocation shifts occur at either the sector or state level.

The FMAT discussed the difficulties of the many moving parts within this Amendment (i.e. rebuilding timelines, phase-in timelines, etc.). FMAT members agreed that the Council/Board should consider streamlining any phase-in approach with the preferred alternative that is selected for rebuilding. This will limit the amount of regulatory changes that need to occur and can potentially be built into the rebuilding plan.

Trigger

The FMAT agreed that the trigger approaches create more complexity for fisheries management compared to the phase-in approach. In order to develop this alternative set, the FMAT would need to perform analyses to determine what the trigger level should be, how catch is allocated above the trigger level, and how catch is allocated below the trigger. The FMAT agreed that a trigger may not be an appropriate management tool to use while the bluefish stock rebuilds. However, it may be a useful tool to implement once the stock rebuilds to the target. Thus, the FMAT does not recommend further pursuing trigger approaches for the commercial and recreational sector allocations at this time. The FMAT does recommend including a provision that would allow future implementation of the trigger approach through a framework or addendum.

3. Commercial Allocations to the States

The Council/Board made no changes to the existing allocation alternatives at the joint June meeting. See Section 3 of the FMAT summary from June 2020 for the updated commercial allocations to the states. However, the Council/Board requested further development of the phase-in and trigger approaches to developing alternatives. Also, the Council/Board directed staff to develop an alternative set that incorporated a minimum default allocation under each proposed time series.

Phase-in Approaches

The degree to which commercial allocations to the states change vary across time series. These changes typically are more substantial for states that have been either landing all their quota and requesting transfers, not achieving their quota for many years, or have been transferring away their quota for many years. A phase-in allocation approach could mitigate the negative socioeconomic consequences of a state losing a significant portion of its quota by allowing for gradual change.

The FMAT previously said that phasing in allocation changes could be challenging to coordinate during a rebuilding period that has the potential to already be complex and destabilizing. The FMAT noted that they want to ensure altering the commercial allocations to the states does not make management unduly complicated for the respective states. In addition, a re-allocation of state quotas that accurately represents the current needs of the fishery reduces the need for a phase-in approach because states will have a more appropriate quota given their recent landings. Lastly, a phase-in approach would not be applicable if the Council/Board replace state by state commercial allocations with regional commercial allocations.

Trigger Approaches

Table 2 provides three options of different commercial quota triggers that allow for a "surplus" of quota to be allocated to each state. The four states that have an allocation of less than 1% will receive a smaller percentage (either 0.05%, 0.10%, or 0.25%). The remaining quota will be allocated equally to the other ten states.

Table 2. Bluefish state allocations under an 8.84 M lb (20-year average commercial quota), 8.21 M lb (10-year average commercial quota), or 6.67 M lb (5-year average commercial quota) trigger point.

	Baseline	Option 1 (0.05%)	Option 2 (0.10%)	Option 3 (0.25%)	
State	Allocation of baseline quota ≤8.84 M lbs, 8.21 M lbs, or 6.67 M lbs	Allocation of additional quota beyond either 8.84 M lbs, 8.21 M lbs, or 6.67 M lbs	Allocation of additional quota beyond either 8.84 M lbs, 8.21 M lbs, or 6.67 M lbs	Allocation of additional quota beyond either 8.84 M lbs, 8.21 M lbs, or 6.67 M lbs	Revised state quotas
ME	0.67%	0.05%	0.10%	0.25%	Dependent on total annual coastwide quota; state percent shares vary with amount of "additional" quota in a given year.
NH	0.41%	0.05%	0.10%	0.25%	
MA	6.71%	9.98%	9.96%	9.90%	
RI	6.81%	9.98%	9.96%	9.90%	
CT	1.27%	9.98%	9.96%	9.90%	
NY	10.38%	9.98%	9.96%	9.90%	
NJ	14.81%	9.98%	9.96%	9.90%	
DE	1.88%	9.98%	9.96%	9.90%	
MD	3.00%	9.98%	9.96%	9.90%	
VA	11.94%	9.98%	9.96%	9.90%	

NC	32.03%	9.98%	9.96%	9.90%	
SC	0.04%	0.05%	0.10%	0.25%	
GA	0.01%	0.05%	0.10%	0.25%	
FL	10.06%	9.98%	9.96%	9.90%	
Total	100%	100%	100%	100%	100%

Minimum Default Allocations

Tables 3-6 present allocations including a minimum default allocation of 0.10-1.00%. Minimum default allocations were applied to each state by allocating a baseline quota of 0.10-1.00% to each state. Then, the rest of the annual commercial quota is allocated based on historic landings under different time series.

Table 3. State-by-state commercial bluefish allocations along the U.S. Atlantic coast using different proposed time series and a minimum default allocation of 0.10%.

		0.10% Minimum Default Allocation					
State	**True Status quo 1981-1989**	**Status quo 1981-1989**	**5-year 2014-2018**	**10-year 2009-2018**	**20-year 1999-2018**	**Time Series 1981-1989**	**½ '81-'89 -½ '09-'18**
ME	0.67%	0.76%	0.10%	0.11%	0.11%	0.52%	0.58%
NH	0.41%	0.51%	0.13%	0.22%	0.27%	0.74%	0.42%
MA	6.71%	6.72%	10.59%	10.12%	7.53%	7.18%	7.65%
RI	6.81%	6.81%	11.74%	9.61%	7.98%	7.95%	7.58%
CT	1.27%	1.35%	1.26%	1.09%	0.82%	1.20%	1.28%
NY	10.38%	10.33%	20.12%	19.76%	19.27%	14.65%	12.93%
NJ	14.81%	14.70%	11.17%	13.85%	15.11%	15.45%	14.46%
DE	1.88%	1.95%	0.67%	0.49%	0.48%	1.17%	1.55%
MD	3.00%	3.06%	1.57%	1.92%	1.62%	2.17%	2.75%
VA	11.94%	11.88%	4.65%	5.87%	6.93%	8.77%	10.22%
NC	32.03%	31.68%	31.71%	32.03%	36.52%	33.15%	31.78%
SC	0.04%	0.13%	0.10%	0.10%	0.10%	0.12%	0.13%
GA	0.01%	0.11%	0.10%	0.10%	0.11%	0.11%	0.11%
FL	10.06%	10.02%	6.08%	4.78%	3.16%	6.91%	8.57%

Table 4. State-by-state commercial bluefish allocations along the U.S. Atlantic coast using different proposed time series and a minimum default allocation of 0.25%.

		0.25% Minimum Default Allocation					
State	True Status quo 1981-1989	Status quo 1981-1989	5-year 2014-2018	10-year 2009-2018	20-year 1999-2018	Time Series 1981-1989	½ '81-'89 -½ '09-'18
ME	0.67%	0.89%	0.25%	0.26%	0.26%	0.66%	0.72%
NH	0.41%	0.65%	0.28%	0.36%	0.41%	0.88%	0.56%
MA	6.71%	6.73%	10.52%	10.05%	7.52%	7.18%	7.64%
RI	6.81%	6.82%	11.65%	9.56%	7.97%	7.94%	7.57%
CT	1.27%	1.47%	1.39%	1.22%	0.96%	1.33%	1.40%
NY	10.38%	10.26%	19.85%	19.49%	19.01%	14.49%	12.80%
NJ	14.81%	14.54%	11.09%	13.70%	14.94%	15.27%	14.31%
DE	1.88%	2.06%	0.81%	0.64%	0.62%	1.30%	1.67%
MD	3.00%	3.15%	1.69%	2.03%	1.74%	2.28%	2.84%
VA	11.94%	11.78%	4.71%	5.89%	6.93%	8.73%	10.16%
NC	32.03%	31.16%	31.19%	31.50%	35.89%	32.59%	31.25%
SC	0.04%	0.28%	0.25%	0.25%	0.25%	0.27%	0.28%
GA	0.01%	0.26%	0.25%	0.25%	0.26%	0.26%	0.26%
FL	10.06%	9.95%	6.10%	4.83%	3.24%	6.92%	8.54%

Table 5. State-by-state commercial bluefish allocations along the U.S. Atlantic coast using different proposed time series and a minimum default allocation of 0.50%.

		0.50% Minimum Default Allocation					
State	True Status quo 1981-1989	Status quo 1981-1989	5-year 2014-2018	10-year 2009-2018	20-year 1999-2018	Time Series 1981-1989	½ '81-'89 -½ '09-'18
ME	0.67%	1.12%	0.50%	0.51%	0.51%	0.90%	0.95%
NH	0.41%	0.89%	0.53%	0.61%	0.66%	1.11%	0.80%
MA	6.71%	6.74%	10.39%	9.95%	7.51%	7.18%	7.62%
RI	6.81%	6.83%	11.48%	9.47%	7.94%	7.91%	7.56%
CT	1.27%	1.68%	1.59%	1.43%	1.18%	1.54%	1.61%
NY	10.38%	10.15%	19.39%	19.04%	18.58%	14.22%	12.60%
NJ	14.81%	14.27%	10.94%	13.46%	14.66%	14.98%	14.05%
DE	1.88%	2.25%	1.03%	0.87%	0.86%	1.51%	1.87%
MD	3.00%	3.29%	1.89%	2.21%	1.94%	2.45%	2.99%

VA	11.94%	11.61%	4.79%	5.94%	6.94%	8.68%	10.05%
NC	32.03%	30.29%	30.32%	30.61%	34.85%	31.67%	30.38%
SC	0.04%	0.53%	0.50%	0.50%	0.50%	0.52%	0.52%
GA	0.01%	0.51%	0.50%	0.50%	0.51%	0.51%	0.51%
FL	10.06%	9.85%	6.14%	4.91%	3.38%	6.93%	8.49%

Table 6. State-by-state commercial bluefish allocations along the U.S. Atlantic coast using different proposed time series and a minimum default allocation of 1.00%.

		1.00% Minimum Default Allocation					
State	**True Status quo 1981-1989**	**Status quo 1981-1989**	**5-year 2014-2018**	**10-year 2009-2018**	**20-year 1999-2018**	**Time Series 1981-1989**	**½ '81-'89 -½ '09-'18**
ME	0.67%	1.57%	1.00%	1.01%	1.01%	1.37%	1.42%
NH	0.41%	1.36%	1.03%	1.10%	1.15%	1.56%	1.28%
MA	6.71%	6.77%	10.15%	9.74%	7.48%	7.17%	7.59%
RI	6.81%	6.85%	11.16%	9.29%	7.88%	7.85%	7.53%
CT	1.27%	2.09%	2.01%	1.86%	1.63%	1.96%	2.03%
NY	10.38%	9.92%	18.47%	18.15%	17.72%	13.69%	12.19%
NJ	14.81%	13.73%	10.66%	12.99%	14.10%	14.39%	13.53%
DE	1.88%	2.61%	1.49%	1.34%	1.33%	1.94%	2.26%
MD	3.00%	3.58%	2.29%	2.59%	2.33%	2.81%	3.31%
VA	11.94%	11.27%	4.97%	6.03%	6.96%	8.56%	9.83%
NC	32.03%	28.55%	28.57%	28.85%	32.77%	29.82%	28.63%
SC	0.04%	1.03%	1.00%	1.00%	1.00%	1.02%	1.02%
GA	0.01%	1.01%	1.00%	1.00%	1.01%	1.01%	1.01%
FL	10.06%	9.65%	6.22%	5.08%	3.67%	6.94%	8.39%

Discussion Points/Questions

- Phase-In
  - Phasing-in allocation changes could take place over any number of years, but does 2-5 years represent a reasonable range of alternatives?
  - Does the FMAT still support removal of this alternative given the concerns listed above?
  - Are there examples of when the phase-in approach is necessary or would be supported for changes to the commercial allocations to the states?
- Trigger
  - Is using the average commercial quotas to develop a trigger the best approach?
  - Are there other approached the FMAT should explore?
  - Average commercial quotas over the past 20, 10, or 5 years?
  - Are the proposed percentages (0.05%, 0.10%, 0.25%) appropriate for the four states with a current allocation of less than 1%?

- Minimum Default Allocations
    - Which minimum default allocation percentage is most appropriate?
    - Are there any reasons why a minimum default allocation would not be preferred over a standard allocation alternative?

FMAT Comments/Recommendations on Issue 3

Phase-in

The FMAT discussion regarding phasing in sector allocation changes also pertains to the considerations discussed in phasing in commercial state allocation changes (as indicated above).

Trigger

The FMAT discussed the trigger-based examples provided in Table 2 of this document and concluded a trigger-based approach is more applicable for the commercial allocations to the states than the sector-based allocations (Issue 2). The FMAT noted that the proposed commercial quota triggers are a good starting point but would require further analysis and input from the Board and Council. One FMAT member said that other than equity across states, the proposition to allocate equally across states does not appear to have significant economic reasoning. States with a large quota share like NC would be disproportionately affected. The FMAT also noted that a wider range of alternatives should be developed. Under the current example in Table 2, NC (32.03%) and CT (1.27%) would receive the same allocation once the trigger threshold was met. The FMAT recommends developing different ranges of status quo percentages that would lead to more appropriate "surplus" percentages. For example, status quo percentages and the associated "surplus" allocation percentage could be broken down as follows:

Possible Range of Baseline Quota	Possible Associated Additional Quota Allocations
0-1%	0.25%
>1-5%	3.00%
>5%	12.86%

	Baseline	Option 4 (0.25%)
State	Allocation of baseline quota ≤8.84 M lbs, 8.21 M lbs, or 6.67 M lbs	Allocation of additional quota beyond either 8.84 M lbs, 8.21 M lbs, or 6.67 M lbs
ME	0.67%	0.25%
NH	0.41%	0.25%
MA	6.71%	12.86%
RI	6.81%	12.86%
CT	1.27%	3.00%
NY	10.38%	12.86%
NJ	14.81%	12.86%
DE	1.88%	3.00%

MD	3.00%	3.00%
VA	11.94%	12.86%
NC	32.03%	12.86%
SC	0.04%	0.25%
GA	0.01%	0.25%
FL	10.06%	12.86%
Total	100%	100%

Minimum Default Allocations

The FMAT discussed the proposed minimum default allocations that were based on the approach used in Amendment 3 for Atlantic menhaden. The FMAT concluded that the range of percentages are sufficient but indicated that 1% as a minimum default allocation is too high. The FMAT recommends an allocation closer to the *de minimis* level of 0.1%.

4. Regional Commercial Allocations

At the joint June meeting, the Council/Board reviewed the Florida Regional Proposal and tasked staff to develop regional commercial allocations. Table 7 presents draft allocation alternatives by region (New England, Mid-Atlantic, South Atlantic) for the same time series used to develop the sector and commercial state-to-state allocations.

Table 7. Regional commercial bluefish allocations along the U.S. Atlantic coast using different proposed time series.

Alternative	Time Series	New England (ME-CT)	Mid-Atlantic (NY-VA)	South Atlantic (NC-FL)
4.1	**Status quo: 1981-1989**	15.86%	42.00%	42.13%
4.2	**2014-2018**	23.66%	38.23%	38.13%
4.3	**2009-2018**	20.93%	41.97%	37.13%
4.4	**1999-2018**	16.44%	43.53%	40.05%
4.5	**1981-2018**	17.34%	42.31%	40.45%
4.6	**½ '81-'89 -½ '09-'18**	17.25%	41.99%	40.75%

To account for a single state harvesting too much of the regional allocation, commercial vessel trip limit step downs could be used, similar to what is currently in place for the South Atlantic Spanish Mackerel fishery. The Spanish mackerel fishery also withholds a designated amount of quota (e.g. 250,000 pounds) to help slow the rate of harvest. The Spanish mackerel step down system is presented in Table 8.

Table 8. Harvest triggers and associated trip limits for South Atlantic Fishery Management Council managed Spanish Mackerel.

Spanish Mackerel (SAFMC)

Harvest Trigger (%)	Trip Limit
0% of adjusted quota*	3,500 pounds
75% of adjusted quota*	1,500 pounds
100% of adjusted quota*	500 pounds

*Once 100% of the adjusted quota is harvested, the remaining 250,000 pounds is available at 500 pounds/trip.

Bluefish share similar migratory habits as Spanish Mackerel making them available to certain states during different times of the year. Thus, regional management is being considered by the Council/Board and could utilize similar management measures such as an adjusted quota and step-down trip limits (Tables 9 and 10).

For bluefish, trip limits can be set coastwide or specific to each region, however, trip limits may be difficult to develop considering state trip limits range from "no restrictions" to 500 pounds/week to 7,500 pounds/day (Table 11). As always, state trip limits can be more restrictive than the federal limits. However, states may not be inclined to restrict themselves since the new quotas are regionalized and neighboring states may not adhere to the same self-designated lower limits.

Table 9. Percentage of bluefish trips for 2017-2019 with landings summarized in pound bins. (Data provided by ACCSP).

	New England Trips			Mid-Atlantic Trips			South Atlantic Trips		
Pound Bin	2019	2018	2017	2019	2018	2017	2019	2018	2017
5000+	<1%	<1%	<1%	0%	0%	<1%	<1%	<1%	<1%
4000-4999	<1%	<1%	<1%	0%	0%	<1%	<1%	<1%	<1%
3000-3999	<1%	<1%	<1%	0%	0%	<1%	<1%	<1%	<1%
2000-2999	<1%	<1%	<1%	0%	<1%	0%	<1%	<1%	<1%
1000-1999	<1%	<1%	1.25%	<1%	2.45%	1.45%	1.58%	1.13%	1.26%
500-999	2.34%	1.42%	3.42%	2.29%	3.12%	3.31%	3.69%	3.08%	2.99%
<500	95.84%	96.69%	94.10%	97.20%	94.40%	95.20%	94.31%	95.33%	94.76%

Table 10. Proposed bluefish harvest triggers and associated trip limits for the Atlantic coast.

New England (ME-CT)		Mid-Atlantic (NY-VA)		South Atlantic (NC-FL)	
Harvest Trigger	Trip Limit (lbs)	Harvest Trigger	Trip Limit (lbs)	Harvest Trigger	Trip Limit (lbs)
0%	3,500	0%	2,000	0%	10,000
75%	1,500	75%	1,500	50%	3,500
90%	500	90%	500	75%	1,500
-	-	-	-	90%	500

Table 11. Current commercial bluefish trip and size limits for all Atlantic coast states.

ME	No Restrictions
NH	No Restrictions
MA	5,000 lbs/day or trip
	(whichever is longer)
RI	12" min size;
	1,000 lbs/bi-wk (1.1-4.30)
	8,000 lbs/wk (5.1-11.09)
	500 lbs/wk (11.10-12.31)
CT	9" min size;
	1,200 lbs/trip
NY	9" min size;
	Trip Limit: 5,000 lbs (Jan-April); 750 lbs (May-Aug); 500 lbs (Sept-Oct); 1,000 lbs (Nov-Dec)
NJ	9" min size
DE	No Restrictions
MD	8” min size
PRFC	Trip limits after 80% of VA-MD quota is landed
VA	No Restrictions
NC	No Restrictions
SC	No directed fishery
GA	12" min size;
	15 fish
FL	12” min size;
	7,500 lbs/day

Regional commercial transfers provisions can be the same as the current state-to-state transfers but set for region-to-region. Ideally, transfers will be limited with the additional flexibility provided by regional quotas and increased access to a larger quota share. Furthermore, new allocations based on updated data should reduce the need for transfers for the foreseeable future.

Discussion Points/Questions

- Does the introduction of regional quotas exacerbate the "race to fish" incentive as each state's fisheries compete with one another to harvest quota first?
- Is an adjusted quota (SAFMC Spanish Mackerel example) appropriate to use for bluefish?
- Are the proposed trip limits and harvest triggers appropriate? See the current state trip limits for varying trip limits by region.
    - Are additional analyses necessary?
- Will future changes to trip limits occur through specifications?
- Will transfers follow the current state-to-state provisions but on a regional level as indicated above?

Expected Future Analysis:

- How would regional transfers work as an administrative process? The Spanish mackerel fishery should be examined further as a potential example.

FMAT Comments/Recommendations on Issue 4

The FMAT briefly discussed the pros and cons of implementing the regional allocation approach. Some states that lose quota because of reallocation could benefit from increased access by combining their quota with other states in their region. However, there are some concerns about managing fisheries on a regional basis. Under the proposed alternative, commercial trip limit step downs would be automatic and regionally applied, which may not suit the needs of individual states that may have different seasonal fisheries. The FMAT discussed whether the current configuration of state groupings as currently proposed is appropriate. The FMAT was interested in verifying whether the regional state groupings have any biological basis. One suggested approach would be to compare state-by-state temporal availability (based on migration) using landings as a proxy for abundance. Lacking biological backing, the regional commercial allocation proposal may have less technical merit. The FMAT would like input from the Council/Board as to whether this is a worthwhile analysis prior to pursuing this task.

The FMAT discussed the importance of requiring identical trip limit regulations at the federal and state level if regional commercial allocations are adopted. This would also require a high level of state buy-in and cooperation.

The FMAT noted that Table 9 is useful for understanding how many individual vessels encompass the larger trip pound bins. The data shows that only a small percentage of trips would be negatively impacted by the implementation of regional trip limits. Any vessel that typically harvests bluefish in large quantities could be disproportionately affected as they are forced to decrease their productivity.

The FMAT thought that the Table 9 should be redeveloped to display each trip limit bin's percent contribution to the total landings for that year. This will help identify if the majority of bluefish landings are coming from a small number of trips with very high landings or many trips with a low amount of landings. Furthermore, the FMAT recommended reassessment of the proposed trip limits once the landings data has been analyzed.

The FMAT also discussed the ability to change trip limits through specifications, which offers some flexibility in developing these measures. Changing trip limits through specifications would hopefully also minimize the need for transfers under the regional commercial allocation alternatives. When considering transfers, provisions could be set where quota could be sent from one region to another. However, complications would arise if not all states in one region agree to send quota to a different region. The FMAT requests that the Council/Board specify whether transfer provisions should be developed under the regional commercial allocation alternatives.

5. Rebuilding Plan

The Council/Board made no changes at the joint June meeting. See Section 5 of the FMAT summary from June 2020 for the rebuilding alternatives. However, the Council/Board requested clarification on what happens if the overfished stock does not (or is anticipated to not) rebuild within the projected timeline, and specifically, if the failure to rebuild is due to environmental conditions. The following language from the MSA details the approach to be taken if the stock is not rebuilt under the proposed timeline.

16 U.S.C. 1854

MSA § 304

(5) If, within the 2-year period beginning on the date of identification or notification that a fishery is overfished, the Council does not submit to the Secretary a fishery management plan, plan amendment, or proposed regulations required by paragraph (3)(A), the Secretary shall prepare a fishery management plan or plan amendment and any accompanying regulations to stop overfishing and rebuild affected stocks of fish within 9 months under subsection (c).

(6) During the development of a fishery management plan, a plan amendment, or proposed regulations required by this subsection, the Council may request the Secretary to implement interim measures to reduce overfishing under section 305(c) until such measures can be replaced by such plan, amendment, or regulations. Such measures, if otherwise in compliance with the provisions of this Act, may be implemented even though they are not sufficient by themselves to stop overfishing of a fishery.

(7) The Secretary shall review any fishery management plan, plan amendment, or regulations required by this subsection at routine intervals that may not exceed two years. If the Secretary finds as a result of the review that such plan, amendment, or regulations have not resulted in adequate progress toward ending overfishing and rebuilding affected fish stocks, the Secretary shall—

> (A) in the case of a fishery to which section 302(a)(3) applies, immediately make revisions necessary to achieve adequate progress; or
>
> (B) for all other fisheries, immediately notify the appropriate Council. Such notification shall recommend further conservation and management measures which the Council should consider under paragraph (3) to achieve adequate progress.

Case Study: In 2005, the Natural Resources Defense Council challenged the 2002 annual catch limits for dark-blotched rockfish. A 2001 stock assessment updated showed that the stock was in a worse condition than previously thought and the stock could not rebuild in 10 years. Thus, the 2002 catch limit was increased based on the longer rebuilding time and a consideration of the needs of fishing communities. However, the Court held that the agency could not take into account the needs of fishing communities for species with rebuilding periods longer than 10 years. The Court further held that increasing ACLs based on information demonstrating that the stock is in worse condition is "incompatible with making the rebuilding period as short as possible." (NRDC v. NMFS, 9th Cir. Aug. 24 2005, 421 F.3d 872; 2005 U.S. App. LEXIS 18143; 35 ELR 20174.)"

Discussion Points/Questions

- If the stock proves to be less responsive to reductions in fishing mortality than expected, would there be justification under the MSA to adjust the biomass target level accordingly?
- If the Secretary finds that the rebuilding plan has not resulted in adequate progress toward rebuilding the bluefish stock, is further reducing fishing mortality the only tool available to the Secretary?
- What role does management of forage fish stocks play in regard to the bluefish rebuilding plan?

FMAT Comments/Recommendations on Issue 5

The FMAT discussed the concerns raised by the Board and Council in regards to the cyclical nature of bluefish abundance and the influence that forage fish and the environment have on the species' ability to rebuild spawning stock biomass to the target within the specified rebuilding timeline. While the FMAT recognizes these concerns and the role that the calibrated MRIP estimates have had on the stock assessment, there was consensus that we need to wait and at least see how the rebuilding plan initially performs. The FMAT noted that NOAA Fisheries is mandated by MSA to prevent overfishing and implement a rebuilding plan. Progress will be evaluated every 2 years and adjustments can be made as necessary. If a rebuilding plan is found to be making inadequate progress, adjustments can include more restrictive management measures and potentially increased funding for research to understand why a rebuilding plan is not going as initially proposed. NOAA Fisheries has specific qualification criteria to assess if adequate rebuilding progress has been made. Ultimately, it is important to first address fishing mortality and then reassess. As more data becomes available and a stock assessment update is conducted, the biological reference points may change and shift stakeholder perspective on the rebuilding process. Finally, the rebuilding plan should be thought of as a "living plan", as it is regularly reviewed, and revised when necessary.

6. For-Hire Sector Separation

The Council/Board recommended further development of the for-hire sector separation alternatives at the joint June meeting. These alternatives are all developed in pounds of fish.

This option would specify within the FMP a separate percentage allocation to the for-hire recreational sector of either the ABC limit, the recreational ACL, or the RHL. There are several potential ways in which a separate allocation could be created for the for-hire sector, described

below with comparison to the current process which does not include sector separation. These potential options are illustrated in Figure 1. The differences between some of these options are nuanced, and the pros and cons of each approach should be further explored by the FMAT if these alternatives remain in the amendment.

A. **Current FMP:** The ABC is divided into the recreational ACL and the commercial ACL. Projected recreational discards are removed from the recreational ACL to derive the recreational harvest limit. Both the private and for-hire recreational sectors are held to a single combined ACL and RHL, and performance evaluation and accountability measures are applied to both fisheries together.

B. **Separate ACLs (NOT RECOMMENDED):** The ABC would be allocated three ways: into a private recreational ACL, a for-hire recreational ACL, and a commercial ACL. This method would require development of these three allocations, and development of separate accountability measures for the private recreational and for-hire sectors.

C. **Recreational Sub-ACLs:** The ABC would remain divided into the recreational ACL and commercial ACL based on the allocation approach selected through this action. The recreational ACL would be further allocated into private and for-hire sub- ACLs. This method would also require development of separate accountability measures for the private recreational and for-hire sectors (Figure 2-left).

D. **Separate RHLs:** The private recreational and for-hire recreational sectors would remain managed under a single recreational ACL. Separate RHLs could be developed for each sector for the purposes of determining management measures. Accountability under this option would be partially at the RHL level (in the sense that performance to the RHL would be evaluated for each recreational sector for the purposes of adjusting future management measures to constrain harvest to the RHL) and partially at the ACL level (in the sense that accountability measures must be established at the ACL level to trigger a response if the entire recreational ACL is exceeded). This approach includes separate management of harvest only; dead discards are not included in RHLs and would be accounted for at the ACL level (Figure 2-right).

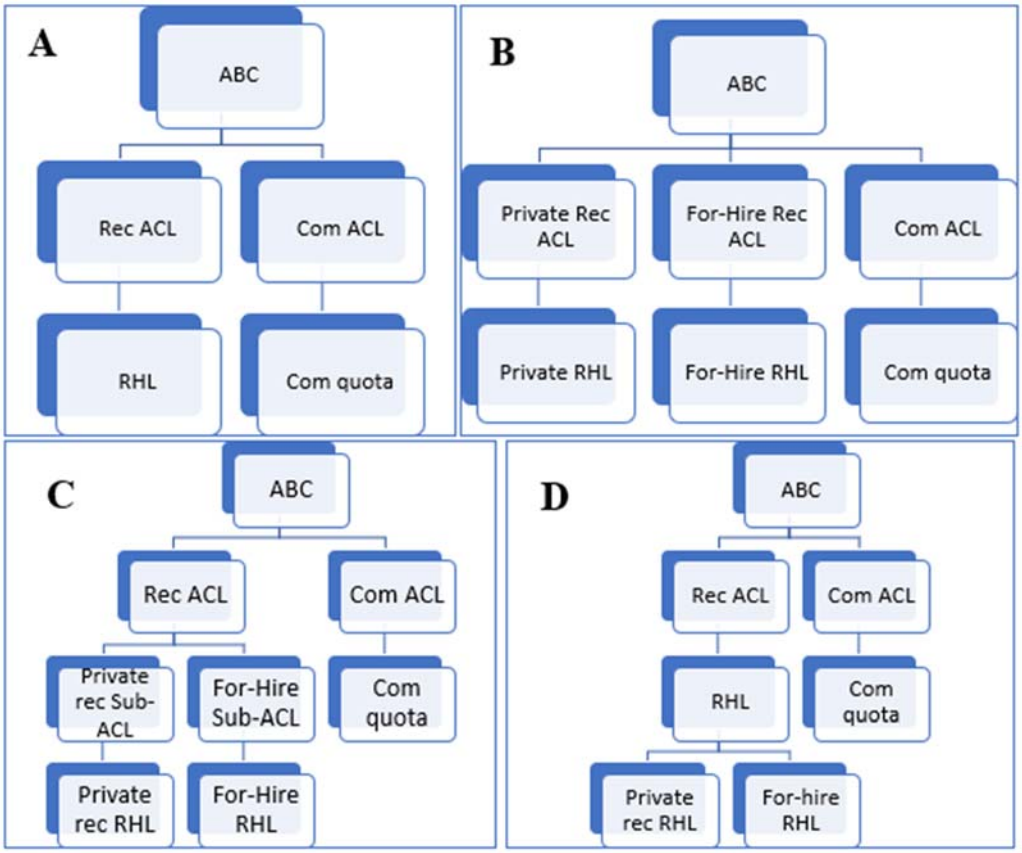


Figure 1. Conceptual flowcharts of potential recreational sector separation configurations including A) status quo, B) separate ACL allocations, C) Sub-ACL allocations, and D) separate RHLs. Note: ACTs, TALs not depicted in above flowcharts.

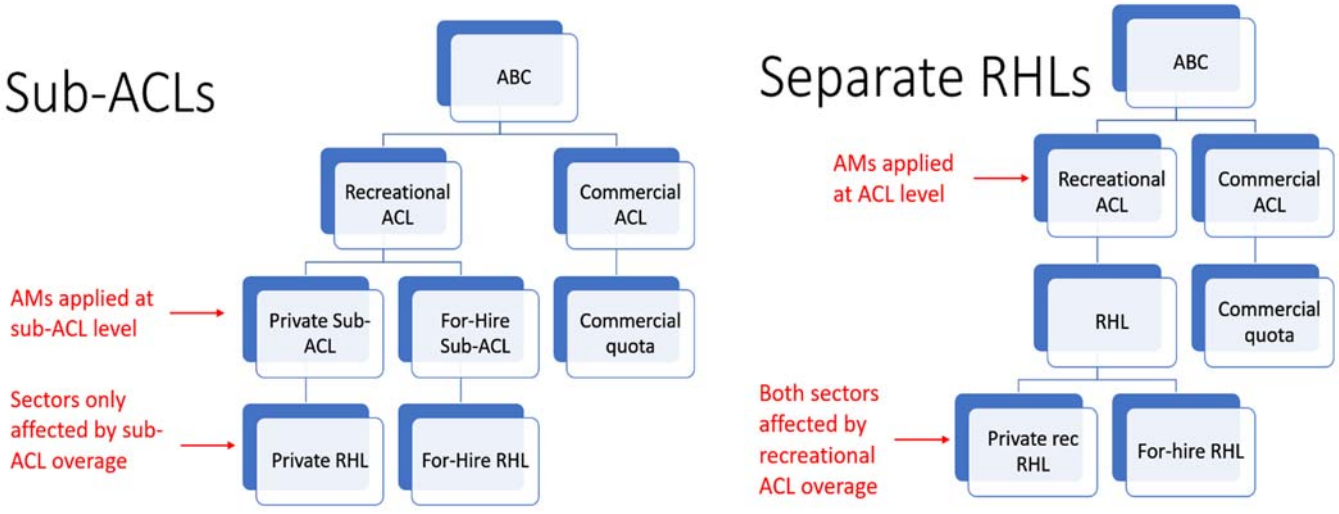


Figure 2. Conceptual flowcharts of potential recreational sector separation configurations including where accountability measures are applied and detailing where sectors are affected by ACL overages.

Staff Recommendation

Structure C represents the best alternative for several reasons. First, the commercial and recreational allocation alternatives developed thus far would remain intact. In contrast, the adoption of structure B would require that this process start over with the development of allocations between three sectors as opposed to two. Second, accountability is more straightforward under structure C. The for-hire sector and the private sector would be individually evaluated on their respective RHL and ACL performance. This is not the case under structure D which would evaluate RHL performance for each sector individually, but ACL evaluation would pool the two sector's catch performance. In short, the for-hire sector or the private angler sector would be held accountable to the other sector's level of discards. For example, if the private angler sector's discards are estimated to be higher than normal in a given year, yet the for-hire sector's discards estimate remains low, and if the ACL is exceeded, both sectors will be held accountable regardless of their individual contributions to the ACL overage. The for-hire sector will be penalized by a reduction in the ACL the subsequent year.

Structure D presents a viable alternative to C if fishery managers' preference is to keep the two recreational sectors grouped together in terms of AMs, and ACL overages are not a major concern.

Discussion Points/Questions

- Are there any reasons why recreational sector separation structure C is not preferable over options B or D?

Expected Future Analysis

- Consider landings and discard data limitations at the mode level.
- Discuss the pros and cons of requiring that all for-hire operators submit eVTRs.

FMAT Comments/Recommendations on Issue 6

The FMAT reviewed and discussed the implications associated with all options (A-D) in figure 1. The FMAT strongly agreed with the staff recommendation to rule out option B as a viable choice considering it would require redevelopment of all the commercial-recreational allocation alternative sets developed thus far.

After further consideration, the FMAT concluded that option C is the best choice for developing for-hire sector separation alternatives. Through scoping, the for-hire stakeholders indicated they want a separate sector from the private recreational angler sector. This includes having separate monitoring of landings and discards, as well as, separate accountability measures. Option C, as opposed to option D, offers the ability for recreational accountability to be sector specific at both the recreational measures setting level through RHL evaluation and the AMs level through ACL evaluation (Figure 2). AMs under option D would apply to the recreational ACL level, thus an overage in one recreational sector could trigger a pound for pound payback that would affect both sectors. Consideration of how transfers will be affected under for-hire sector separation are discussed in section 7 of this document.

The FMAT also discussed future analyses that will be necessary as the Council/Board further explore for-hire sector separation. Analyses should be conducted to advance the understanding of what data is going to be used to develop the allocations and used for catch accounting/monitoring. Most for-hire anglers are in support of using eVTRs instead of MRIP data, however, not all states currently require eVTRs. The FMAT agreed that transitioning to an accounting system reliant on eVTRs and ensuring all states implement the same requirements in a timely manner is a large undertaking, which will require significant administrative effort and stakeholder buy in. Some FMAT members thought that further developing eVTR reporting may be necessary prior to implementing for-hire sector separation. The FMAT also considered the potential benefit of implementing recreational sector separation using MRIP data and transitioning to eVTR catch accounting in a later action. Following this idea, the FMAT discussed the potential challenges with utilizing MRIP data for catch accounting. MRIP estimates are most accurate at the coastwide level and become less accurate the more granular the query level gets. The FMAT agreed that more analysis is needed to better understand the range of PSE values for the for-hire mode and the implications they have for setting recreational measures and evaluating catch performance against a for-hire ACL.

7. Transfers – Sector

Proposed sector transfer process under no recreational sector separation

Under the proposed transfer alternatives, the Board and the Council would have the ability to recommend that a portion of catch or landings limits be transferred between the recreational sector and the commercial sector. The need for a sector transfer would be assessed annually through the specifications process, typically at the August joint meeting. Prior to the meeting, the Monitoring Committee would develop a projection of next year's catch or landings for both the recreational and the commercial sectors using considerations such as catch in prior years, changes in management measures (e.g., possession limits, minimum size limits, seasons, quotas), trends in fishery effort, and changes in abundance and biomass levels. These projected commercial and recreational catches would be compared to the initial proposed sector ACLs or landings limits for the upcoming fishing year. If, based on this comparison, one sector is not anticipated to catch its limit, and the other sector is expected to exceed its limit, the Council and Board can recommend that a portion of the ACL be transferred to the other sector up to a maximum percentage of the ABC. If both sectors are projected to achieve or underachieve their respective catch limits for that year, then no transfer is recommended.

Under the current plan, NOAA Fisheries implements specifications in January for the new fishing year following the August meeting. Once preliminary prior year MRIP estimates are available in February, NOAA Fisheries compares the estimate of recreational landings for the previous year to the RHL to make any necessary adjustments before finalizing the amount of quota transferred. The adjustment notice with final specifications is usually published in March/April. This process could be continued, except instead of only analyzing recreational landings, both commercial and recreational landings and discards from the previous year would be analyzed to inform any adjustments to the transfer between the commercial and recreational sectors.

The recreational accountability measures (AMs) for bluefish were updated in Omnibus Amendment 3 to the Bluefish FMP. The AMs indicate that special consideration be given when a sector transfer contributes to a fishery-level ACL (which includes recreational and commercial catch) overage. ACL overages can potentially result from too much quota being transferred away from the recreational sector. Recreational landings may exceed projected catch in a given year and thus may exceed the transfer-adjusted-RHL. In these instances, the Bluefish Monitoring Committee can recommend that the amount transferred between the recreational and commercial sectors be reduced by the ACL overage amount in a subsequent fishing year.

Sector transfer process considerations

Question	Discussion
Transferring at the catch limit or landings limit level?	• Transferring landings could complicate the evaluation of catch performance against the ACL. If the landings limit is increased, the ACL should probably be adjusted by the landings transfer amount to prevent an ACL overage. This would have a similar result to simply transferring at the catch level, however, the basis would be projected landings, and the landings limit increase would be the basis for the ACL increase (i.e., projected discards would not change). • Additional discussion of recreational and commercial data timing is needed to determine how feasible or accurate catch projections (as opposed to landings projections) may be. The NEFSC's recreational dead catch in weight estimates are usually available later in the year than estimates of preliminary harvest in numbers and weight and discards in numbers of fish.
What should the transfer cap be set at?	• The transition from old uncalibrated MRIP data to new calibrated MRIP data adds uncertainty in analyzing past performance relative to catch and landings limits and calls into question whether any analyses can actually inform the size of the transfer cap that may be needed in future years. The appropriate size of a transfer cap may depend on whether catch or landings are transferred and whether the cap is considered as a percentage of the ABC or TAL.
What should the timing and process look like for transfers?	• The timing and process for the existing bluefish transfers may not work for this FMP under the current process. Federal recreational management measures, and often general guidelines for reductions or liberalizations, are typically adopted in December. If the catch or landings projection and adjustment for a transfer is not conducted until early the next year, it is not clear how this would work with the timing of recreational measures development. • The process for adjusting catch or landings limits after publication of the specifications final rule should also be clarified.
Should criteria be established that prohibits transfers from occurring?	• Consideration could be given to prohibiting transfers under certain conditions, such as when a stock is overfished or under a rebuilding plan.

How are transfers handled under recreational sector separation (if adopted through this action)?	Option 1: Transfers between sectors are prohibited. The new regulatory structure involved with developing recreational sector separation creates additional complexity in developing the transfer provision. Transfers provide additional regulatory burden and increased likelihood of ABC overages.
	Option 2: Tri-directional transfers occur between all three sectors ▪ Reasons for: equitability, flexibility ▪ Reasons against: This option greatly complicates the specifications process with the need to address additional considerations such as which direction transfers should occur and how much should be allocated to each sector.
	Option 3 (Staff preferred option): Transfers occur only between the commercial fishery and the <u>combined</u> recreational ACL. Landings are projected for the for-hire and private angler sectors and compared to their respective landings limits. Any projected underages are added together and transferred from the recreational ACL to the commercial ACL. ▪ Reasons for: Each sector has the potential to benefit from the sector process. ▪ Reasons against: Projecting landings by recreational sector may be challenging if MRIP PSEs by mode are high.

<u>FMAT Comments/Recommendations on Issue 7</u>

The FMAT discussed the staff recommendation to transfer catch at the ACL level if sector separation is implemented and agreed that this would likely be simpler than considering the tri-directional transfer option. Timing challenges in terms of data availability and when the projections occur were also discussed. Specifically, if GARFO adjusted the size of a transfer from the commercial to the recreational sector in March, the FMAT struggled to determine how this may affect recreational measures. The FMAT also pointed out that commercial discards have historically been considered negligible, but if this trend were to change, the timing of the release of commercial discard estimates could pose additional challenges for the transfer process. The aforementioned concerns led the FMAT to believe that projecting catch may be much more difficult than projecting just landings. Thus, projecting catch is much more uncertain and more challenging to predict than landings. With preliminary landings data available earlier in the year, the FMAT supported the idea of projecting landings for each individual sector. In summary, the FMAT supports option 3 (referenced in table above) if recreational sector separation is implemented.

When considering how quota moves through the proposed bluefish flowchart (figure 3), the FMAT recommends that transfers should be one of the last measures considered. This allows for all reductions (including management uncertainty, discards, etc.) to be accounted for when determining whether a transfer should occur and how large the transfer should be.

8. Transfers – Commercial State-to-State (Refereed)

This alternative offers a neutral party (ASMFC Staff) to match up transfer partners and make sure that one or more states are not requesting quota transfers too early. The approach warrants individual states to project their landings and identify when they will land their individual state quotas. Once states reach 75% of their own quota, they can notify the neutral party that they want to request a quota transfer. The neutral party will then need to review which states are not going to land their quota based on projections and share this information with the state requesting quota. The state in need of quota will then reach out to states with a projected surplus to request a transfer. The appropriate transfer amount would be determined by the neutral party. This will then allow the neutral party to initiate a quota transfer from the two states and ensure additional quota will be available for other states that are projected to land their own state quota later in the year.

Transfer rule options

1. Any transfer requested by a state is reduced by multiplying the requesting states percent share of the coastwide projected overage. The remaining quota is not transferred and stays with the state as a surplus of quota in reserve for other states to request.
2. The transfer process is identical to the first rule with one exception. If the state with a projected surplus of quota is able to complete the transfer and still has sufficient projected surplus to cover the sum of all other states' projected overages, the transfer amount is approved as received and not reduced. If the state's projected surplus can't meet this requirement, the transfer process functions as above and is reduced by multiplying the requesting state's share of the coastwide overage. The remaining quota is not transferred and stays with the state as a surplus of quota in reserve for other states to request.

Projection Calculation

ASMFC Staff will use state by state quota utilization trends from the prior 3 years when developing projected landings for the current year. The projection methodology will closely resemble the methodology used by Council staff to project recreational harvest by state and wave in the 2019 Recreational Measures Staff Memo[1]. However, ASMFC staff would have the ability to adjust the state by state landings projections analysis as stock conditions and fishery trends change.

Note: The potential reallocation of commercial state-to-state quotas will most likely reduce the need for transfers in the near future, however, as the fishery continues to change transfers requests are likely to increase in occurrence.

Quota Transfer Example Scenarios (Table 12 and 13):

Scenario using transfer rule 1 - NY requests 100,000 lbs from NJ. NY's share of the coastwide overage is 36% so it receives 36,000 lbs from NJ. 64,000 lbs are left with NJ, which would help reserve quota should RI request a transfer from NJ.

[1] https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/5dc192e13810a93900b77283/1572967138379/Bluefish+MC+Rec+Measures+Staff+Memo.pdf

Scenario using transfer rule 2 - RI requests 100,000 lbs from NJ, after the transfer NJ's projected surplus is 182,000, which is still enough to cover NY's projected overage. The transfer is approved as requested.

Table 12. Average commercial landings from 2017-2019 in pounds by state and month.

	Average Commercial Landings (lbs) by Month (2017-2019)												
STATE	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	Grand Total
ME						30							30
NH													0
MA	340	826	4,155	9,020	42,775	124,754	175,418	248,429	91,331	37,962	9,281	120	744,411
RI	4,357	4,378	3,783	4,289	38,328	80,135	139,385	169,082	296,233	405,911	148,362	6,099	1,300,340
CT	2,633	271	584	262	3,628	7,946	9,119	23,363	37,656	31,804	9,591	1,498	128,354
NY	3,373	916	24,743	56,820	522,066	383,907	238,115	181,534	195,442	134,882	89,268	6,275	1,837,341
NJ	48,205	26,009	36,919	12,458	214,602	26,653	5,894	15,928	35,099	51,250	79,974	12,102	565,092
DE				4,609	8,253	1,209	834	4,554	2,322	563	192	356	22,892
MD	1,177	949	112	13,626	13,715	3,242	5,458	7,077	13,719	6,991	13,546	2,517	82,129
VA	1,724	786	10,860	23,851	73,983	25,595	28,197	77,163	86,467	82,712	15,995	12,700	440,032
NC	209,629	514,572	192,818	701,469	336,959	160,212	242,351	405,948	345,452	363,810	74,927	13,883	3,562,031
SC	8	7	46	51	20	8	54	17					210
GA													0
FL	79,183	109,796	173,318	96,795	23,528	10,795	7,043	6,376	19,345	75,042	204,018	144,780	950,018
COAST	350,629	658,509	447,336	923,250	1,277,856	824,486	851,868	1,139,471	1,123,065	1,190,927	645,154	200,329	9,632,879

Table 13. State commercial landings projections.

State Commercial Landings Projections (lbs)							
STATE	Percent share	2020 Quota (lb)	Sum of 2017-19 landings occurring from Jan-June	Proportion of 2017-19 landings occurring from Jan-June	2020 landings to date	Projected Landings	Underage/ Overage
ME	0.67	18,496	30	100%	0	0	18,496
NH	0.41	11,468	0	0%	0	0	11,468
MA	6.72	185,838	181,871	24%	18,905	77,378	108,460
RI	6.81	188,366	135,269	10%	51,729	497,274	-308,908
CT	1.27	35,036	15,324	12%	2,457	20,577	14,459
NY	10.39	287,335	991,826	54%	250,060	463,232	-175,897
NJ	14.82	409,934	364,845	65%	82,416	127,650	282,284
DE	1.88	51,966	14,071	61%	822	1,337	50,629
MD	3	83,054	32,821	40%	2,946	7,372	75,682
VA	11.88	328,682	136,798	31%	43,196	138,948	189,734
NC	32.06	887,058	2,115,659	59%	450,740	758,889	128,169
SC	0.04	974	139	66%	40	60	914
GA	0.01	263	0	0%	0	0	263
FL	10.06	278,332	493,414	52%	89,007	171,373	106,959
COAST	100	2,766,801	4,482,066	47%	992,317	2,132,693	634,108

Discussion Points/Questions:

1. Is 75% of a state's quota an appropriate threshold level at which states can request a transfer?
2. By setting a coastwide threshold level, some states will be allowed to request quota transfers earlier in the season compared to others. Is this equitable and does this have any unintended consequences?
3. Are there concerns about either transfer rule?
4. Does the FMAT have a preference for either transfer rule?

FMAT Comments/Recommendations on Issue 8

The FMAT discussed the two proposed transfer rule options for the refereed approach and concluded that both options are very informative. However, the two examples provided above make it very clear that the referred approach to commercial state-to-state transfers may create more administrative burden than the current provisions utilized for state-to-state transfers. The two approaches may also incentivize states to request more quota than they actually need since they know that the amount requested will likely be reduced by their share of the projected overage. States may also be incentivized to request quota more frequently from other states which would require increased communication and greater effort from state staff personnel. The FMAT also thought that it would be unlikely that individual states would want to reduce their own autonomy and flexibility by implementing these restrictions on transfers. For example, there may be instances where the state personnel's projection of landings differs from the neutral party's projections, which affects the state's ability to receive an adequate transfer amount. Thus, the FMAT recommends the Council/Board removal of this alternative and management continue with the status quo alternative. However, the two transfer rule options may be useful to retain in the document and could be noted as "considered but rejected".

9. Management Uncertainty

The Council/Board made no changes at the joint June meeting. See Section 6.1 of the FMAT summary from June 2020 for the updated management uncertainty flow chart alternatives.

As the for-hire-sector separation alternatives continue to be developed, revisions may need to be made to the proposed flow chart (Figure 3). Specifically, under option B (see Section 6 of this document) where the sector split occurs at the ACL level.

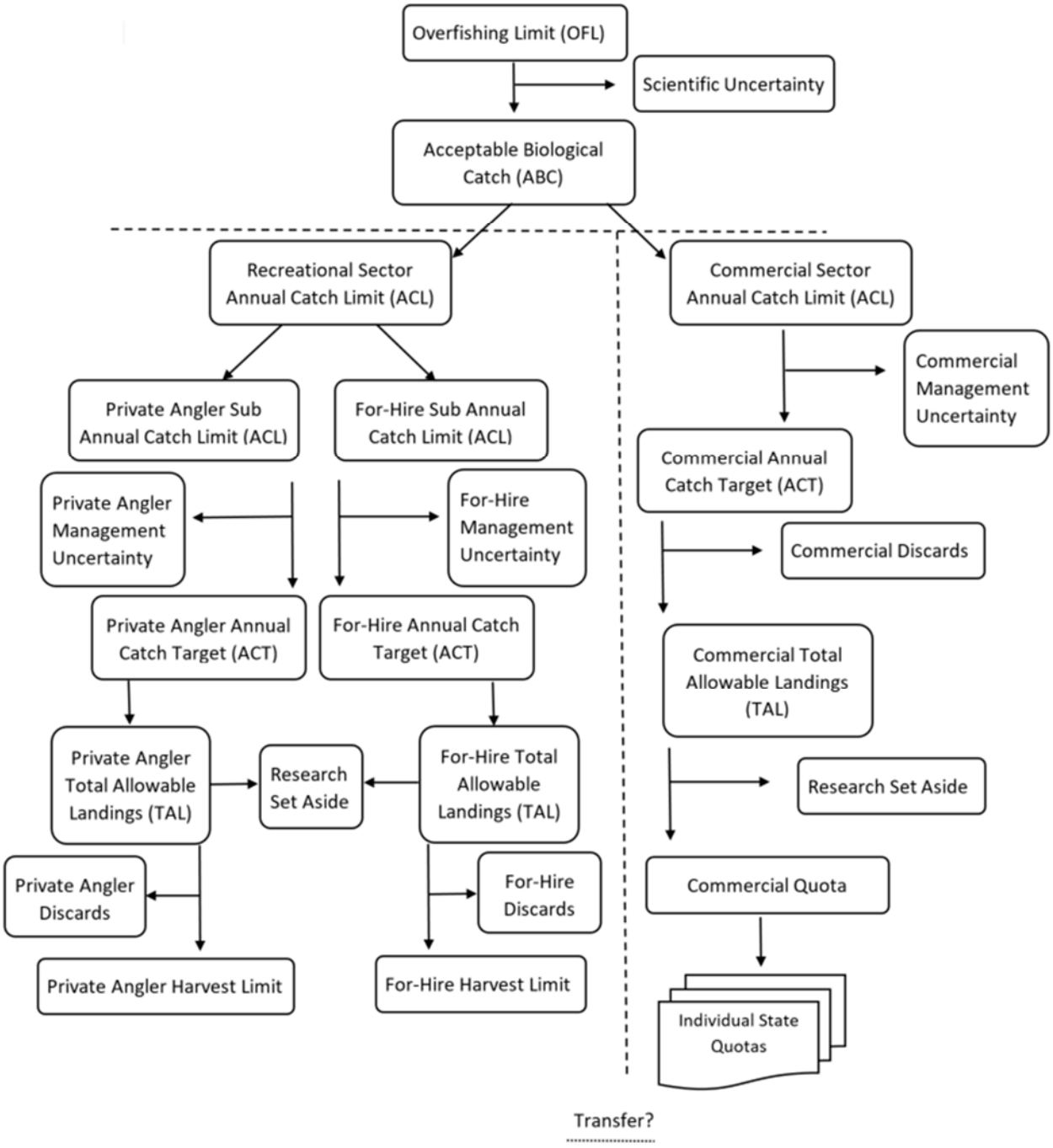


Figure 3. Proposed bluefish flow chart representing recreational sector separation and reductions for management uncertainty within each sector.

FMAT Comments/Recommendations on Issue 9

No changes were recommended by the FMAT at this meeting regarding sector specific management uncertainty.

10. *De minimis*

The Council/Board made no changes at the joint June meeting. See Section 6.3 of the FMAT summary from June 2020 for the proposed *de minimis* provisions which would apply in only state waters.

FMAT Comments/Recommendations on Issue 10

No changes were recommended by the FMAT at this meeting regarding *de minimis* status.

Atlantic States Marine Fisheries Commission

ASMFC Summer Flounder, Scup, and Black Sea Bass Management Board and Mid-Atlantic Fishery Management Council

August 6, 2020
11:15 a.m. – 3:45 p.m.
Webinar

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 *(A. Nowalsky, ASMFC/M. Luisi, MAFMC*)	11:15 a.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from May 2020	11:15 a.m.
3.	Public Comment	11:20 a.m.
4.	Consider Draft Addendum XXXIII for Public Comment *(C. Starks)* **Action** • Black Sea Bass Commercial Allocation	11:30 a.m.
5.	Lunch Break	12:00 p.m.
6.	Consider Draft Addendum XXXIII for Public Comment, *continued* • Black Sea Bass Commercial Allocation	1:00 p.m.
7.	Update on Recreational Reform Initiative *(J. Beaty)* **Possible Action**	2:25 p.m.
8.	Review and Consider Approval of Massachusetts 2020 Black Sea Bass Recreational Conservation Equivalency Proposal *(N. Meserve)* **Final Action** • Summary of TC, AP, and LEC comments (*C. Starks*)	3:10 p.m.
9.	Other Business/Adjourn	3:40 p.m.

This meeting will be held via webinar, click here for details.
Sustainable and Cooperative Management of Atlantic Coastal Fisheries

MEETING OVERVIEW

ASMFC Summer Flounder, Scup, and Black Sea Bass Management Board and Mid-Atlantic Fishery Management Council Webinar
August 6, 2020
11:15 a.m. – 3:45 p.m.

Chair: Adam Nowalsky (NJ) Assumed Chairmanship: 12/19	Technical Committee Chair: Greg Wojcik (CT)	Law Enforcement Committee Representative: Snellbaker (MD)
Vice Chair: Justin Davis (CT)	Advisory Panel Chair: Vacant	Previous Board Meeting: May 6, 2020
Voting Members: MA, RI, CT, NY, NJ, DE, MD, PRFC, VA, NC, NMFS, USFWS (12 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from May 2020

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. Consider Draft Addendum XXXIII for Public Comment (11:30-2:25 p.m.) Action

Background

- In October 2019, the Summer Flounder, Scup, and Black Sea Bass Management Board (Board) initiated development of Draft Addendum XXXIII to the Interstate Fishery Management Plan (FMP) for Summer Flounder, Scup, and Black Sea Bass. The Draft Addendum considers modifications to the black sea bass commercial state allocations. In December 2019, the Mid-Atlantic Fishery Management Council (Council) initiated a complementary amendment to make this a joint action between the Board and Council. The amendment would consider including the state specific commercial allocations in the Council FMP.
- The goal of this action is to "consider adjusting the current commercial black sea bass allocations using current distribution and abundance of black sea bass as one of several adjustment factors to achieve more balanced access to the resource. These adjustment factors will be identified as the development process moves forward."
- Draft Addendum XXXIII proposes various management options for modifying the commercial state allocations, including an approach to increase Connecticut's current 1% quota to 5%, an approach using dynamic regional allocation adjustments, trigger-based approaches, and allocating a certain percentage of the coastwide quota based on historical allocations.

Several options incorporate current (**Briefing Materials**). The document also includes management options for including the commercial state shares in the Council FMP.
- If the draft addendum is approved for public comment in August, public hearings could take place in late summer/fall 2020, and the Board and Council could consider final action in December.

Presentations
- Overview of Draft Addendum XXXIII by C. Starks

Board Actions for Consideration
- Approve Draft Addendum XXXIII for public comment

5. Lunch Break (12:00-1:00 p.m.)

6. Consider Draft Addendum XXXIII for Public Comment, *continued*

7. Update on Recreational Reform Initiative (2:25-3:10 p.m.) Possible Action

Board Discussion
- The Recreational Reform Initiative is an ongoing joint effort of the Commission and Council, which aims to propose and develop strategies to increase recreational management flexibility and stability for jointly managed species (summer flounder, scup, black sea bass, and bluefish).
- At their June joint meeting, the Council and Board reviewed a draft outline of topics under consideration through the Recreational Reform Initiative and Monitoring Committee discussion on the initiative (**Briefing Materials**). After considering the topics currently under consideration, as well as items removed from further consideration through the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment, the Council and Board tasked staff with determining which items could be addressed through a joint framework/addendum and which changes would require an amendment (**Supplemental Materials**).

Presentations
- Update on Recreational Reform Initiative by J. Beaty

Board Actions for Consideration
- Consider initiating a framework/addendum or amendment to address any management options considered through the Recreational Reform Initiative

8. Review and Consider Approval of Massachusetts 2020 Black Sea Bass Recreational Proposal (3:10-3:40 p.m.) Final Action

Board Discussion
- Massachusetts submitted a proposal for recreational black sea bass conservation equivalency to extend the end of the state's for-hire recreational black sea bass season in 2020 to account for days closed to for-hire fishing at the beginning of the season due to the COVID-19 pandemic (**Briefing Materials**).
- The Technical Committee reviewed the proposal in May, and provided recommendations on the data that should be used to calculate the daily harvest rate and resulting season modification to achieve conservation equivalency (**Briefing Materials**).

• Comments on the Massachusetts proposal were also provided by the Advisory Panel and Law Enforcement Committee by email.
Presentations • Overview of Massachusetts conservation equivalency proposal by N. Meserve • Technical Committee recommendations and AP and LEC comments on Massachusetts conservation equivalency proposal by C. Starks
Board Actions for Consideration • Approve Massachusetts conservation equivalency proposal

9. Other Business (3:40-3:45 p.m.)

10. Adjourn

Draft Document for Board Review. Not for Public comment.

Atlantic States Marine Fisheries Commission and Mid-Atlantic Fishery Management Council

DRAFT ADDENDUM XXXIII AND AMENDMENT TO THE SUMMER FLOUNDER, SCUP, BLACK SEA BASS FISHERY MANAGEMENT PLAN FOR PUBLIC COMMENT

Black Sea Bass Commercial Management

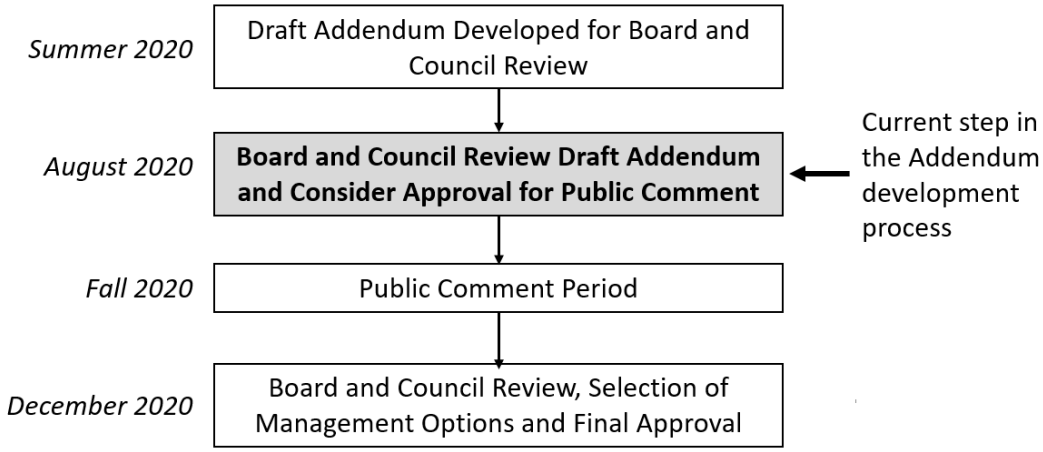
This draft document was developed for Management Board review and discussion. This document is not intended to solicit public comment as part of the Commission/State formal public input process. Comments on this draft document may be given at the appropriate time on the agenda during the scheduled meeting. If approved, a public comment period will be established to solicit input on the issues contained in the document.

August 2020
Section 3.2 Revised 7/28/2020

Table of Contents

Public Comment Process and Proposed Timeline

In October 2019, the Summer Flounder, Scup, and Black Sea Bass Management Board (Board) initiated development of Draft Addendum XXXIII to the Interstate Fishery Management Plan (FMP) for Summer Flounder, Scup, and Black Sea Bass. The Draft Addendum considers modifications to the black sea bass commercial state allocations. In December 2019, the Mid-Atlantic Fishery Management Council (Council) initiated a complementary amendment to make this a joint action between the Board and Council. The amendment would consider including the state specific commercial allocations in the Council FMP. This document presents background on black sea bass commercial management; the addendum process and expected timeline; and the problem statement. It also provides a range of management options for public consideration and comment.



The public is encouraged to submit comments regarding this document at any time during the public comment period. The final date comments will be accepted is [DATE], 2020 at 11:59 p.m. Comments may be submitted at state public hearings or by mail, email, or fax. If you have any questions or would like to submit comment, please use the contact information below.

Mail: Caitlin Starks, FMP Coordinator
Atlantic States Marine Fisheries Commission
1050 North Highland Street, Suite 200 A-N
Arlington, VA 22201

Email: comments@asmfc.org
(Subject: Draft Addendum XXXIII)
Phone: 703.842.0740
FAX: 703.842.0741

1.0 Introduction

Draft Addendum XXXIII proposes alternative approaches for allocating the coastwide black sea bass commercial quota among the states[1]. On October 9, 2019, the Atlantic States Marine Fisheries Commission's (Commission) Summer Flounder, Scup, and Black Sea Bass Management Board (Board) approved the following motion:

> *Move to initiate an addendum to consider adjustments to the commercial black sea bass allocations consistent with the goal statement and options developed by the Board.*

In December 2019, the Council initiated a complementary amendment to make this a joint action between the Board and Council and consider including the state specific commercial allocations in the Council FMP. This joint action has two goals:

- To consider adjusting the current commercial black sea bass allocations using current distribution and abundance of black sea bass as one of several adjustment factors to achieve more balanced access to the resource. These adjustment factors will be identified as the development process moves forward.
- To consider whether the state allocations should continue to be managed only under the Commission's FMP or whether they should be managed under both the Commission and Council FMPs[2].

The management unit for black sea bass in US waters is the western Atlantic Ocean from Cape Hatteras, North Carolina northward to the US-Canadian border. The black sea bass fisheries are managed cooperatively by the states through the Commission in state waters (0-3 miles), and through the Mid-Atlantic Fishery Management Council (Council) and NOAA Fisheries in federal waters (3-200 miles).

The Council and Commission are both responsible for implementing the annual coastwide commercial quota, but only the Commission is responsible for managing the state by state allocation of the coastwide quota. The current state quota allocations were established in 2003 through Amendment 13 to the Summer Flounder, Scup, and Black Sea Bass FMP, and extended indefinitely through Addendum XIX (2007).

This draft addendum is proposed under the adaptive management procedures of Amendment 12 to the Summer Flounder, Scup, and Black Sea Bass FMP.

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[1] The Commission and Council are also in the process of developing a joint Amendment for Summer Flounder, Scup and Black Sea Bass to consider modifications to the commercial and recreational sectors allocation. A change to the overall allocation to the commercial sector could impact the amount of quota available to the states, but would not impact the state allocations of the commercial quota. Information on Commercial/Recreational Allocation Amendment can be found at http://www.mafmc.org/actions/sfsbsb-allocation-amendment.

[2] In this document it is noted that the Board ***and*** Council could choose between proposed management options to modify the black sea bass state commercial allocations. However, if the two management bodies elect not to include the black sea bass state commercial allocations in the Council's FMP, only the Board would select the management program.

2.0 Overview

2.1 Statement of Problem

State allocations of the commercial black sea bass coastwide quota were originally implemented in 2003 as part of Amendment 13, loosely based on historical landings from 1980-2001. The state shares in Amendment 13 allocated 67% of the coast-wide commercial quota among the states of New Jersey through North Carolina (North of Cape Hatteras) and 33% among the states of New York through Maine. These state commercial allocations have been unchanged for 17 years.

Over the last decade, the distribution of the black sea bass stock has changed, abundance and biomass have increased significantly, and there have been corresponding changes in fishing effort and behavior. According to the most recent black sea bass stock assessment, which modeled fish north and south of Hudson Canyon separately, the majority of the stock occurred in the southern region prior to the mid-2000s (NEFSC 2019). Since then the biomass in the northern region has grown considerably. Although the amount of biomass in the southern region has not declined in recent years, the northern region currently accounts for the majority of spawning stock biomass (Figure 1). This shift in black sea biomass distribution has also been supported by peer reviewed scientific research (e.g., Bell et al., 2015).

In some cases, expansion of the black sea bass stock into areas with historically minimal fishing effort has created significant disparities between state allocations and current abundance and resource availability. The most noteworthy example is Connecticut, which has experienced significant increases in black sea bass abundance and fishery availability in Long Island Sound in recent years but is only allocated 1% of the coastwide commercial quota (this allocation was based loosely on landings from 1980-2001).

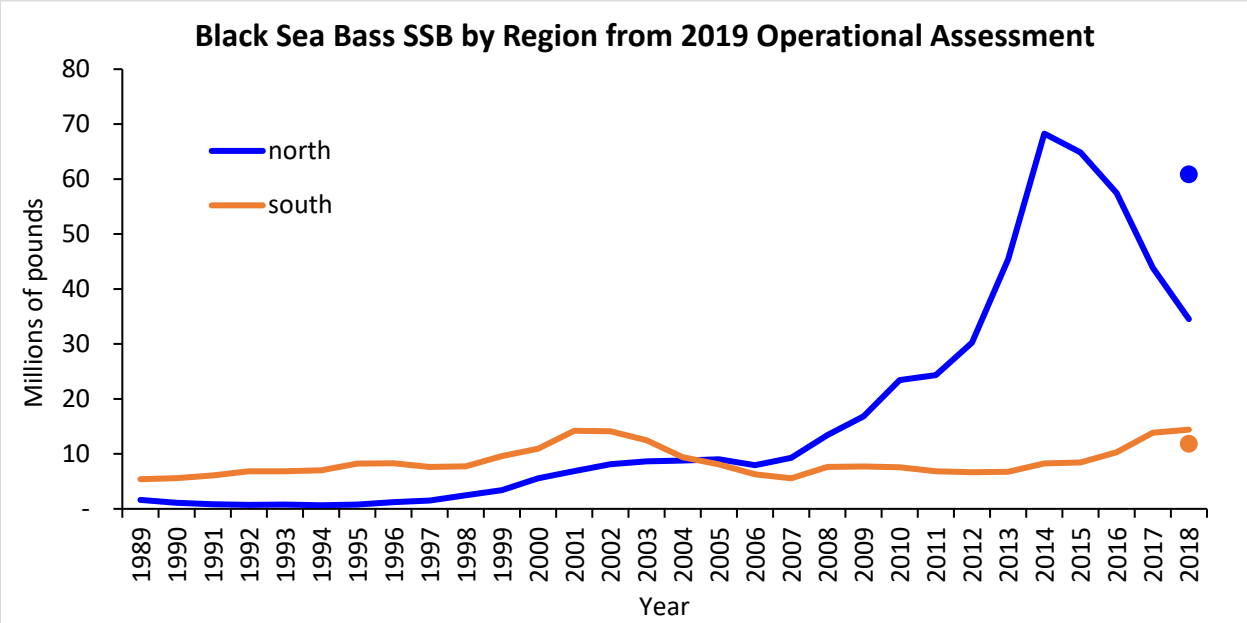

Figure 1. Black sea bass spawning stock biomass by region from the 2019 Operational Assessment Update. Open marks represent retro-adjusted values (used to set catch limits). Source: Personal communication with Northeast Fishery Science Center.

2.2 Background

The Commission's FMP for black sea bass was approved in October 1996. The Council added black sea bass to their summer flounder FMP in 1996 through Amendment 9. Both FMPs established an annual process of developing commercial quotas, recreational harvest limits, and recreational and commercial management measures, as well as a series of permitting and reporting requirements. Under the original FMP, the annual coastwide commercial quota was divided into four quarters: January 1 through March 31, April 1 through June 30, July 1 through September 30, and October 1 through December 31.

Under the quarterly quota allocation system, the fishery was subjected to lengthy closures and some significant quota overages. Fishery closures occurring as a result of quotas being fully utilized or exceeded resulted in increased discards of legal sized black sea bass in mixed species fisheries for the remainder of the closure period. Significant financial hardship on the part of the fishing industry also resulted from a decrease in market demand caused by a fluctuating supply. To address these issues, the Management Board enacted a series of emergency rules in 2001 establishing initial possession limits, triggers, and adjusted possession limits. While these measures helped reduce the length of fishery closures, the frequent regulatory changes confused fishermen and added significant administrative burden to the states. Addendum VI (2002) provided a mechanism for setting initial possession limits, triggers, and adjusted possession limits during the annual specification setting process without the need for further emergency rules.

The quarterly quota system was replaced with an annual quota system under Amendment 13, approved by the Commission and Council in May 2002. The Amendment implemented a federal coastwide commercial quota, and a state-by-state allocation system for 2003 and 2004 to be managed by the Commission. This system was adopted to reduce fishery closures, achieve more equitable distribution of quota to fishermen, and allow the states to manage their commercial quota for the greatest benefit of the industry in their state.

At the time of final action on Amendment 13, the Council expressed a desire that the state allocations be managed at both the state and federal levels and contained in both the Council and Commission's FMPs. However, the NOAA Fisheries Regional Administrator at the time said a state quota system at the federal level could not be monitored effectively with the then current monitoring methods due to the anticipated low allocations in some states. As a result, the Council approved a federal annual coastwide quota, acknowledging that this would facilitate the use of state allocations through the Commission's FMP. Many of the concerns with monitoring state quotas at the federal level have subsequently been resolved with changes to how commercial landings are reported.

State-specific shares were adopted as follows: Maine and New Hampshire 0.5%, Connecticut 1%, Delaware 5%, New York 7%, Rhode Island, North Carolina and Maryland 11%, Massachusetts 13%, New Jersey and Virginia 20% (Table 1).

The individual state shares management program was continued in 2005 and 2006 through Addendum XII (2004). Addendum XIX, approved in 2007, extended the state shares of the commercial black sea bass quota indefinitely. No further changes have been made to the black sea bass commercial state shares. Addenda XII and XIX (2004 and 2007, respectively) allowed

for the transfer of black sea bass commercial quota among states, and Addendum XX (2009) established the process for state to state quota transfers. Under the management program established through these Addenda, states have the responsibility of managing their quota to provide the greatest benefit to their commercial black sea bass industry. The ability to transfer or combine quota further increased the flexibility of the system to respond to annual variations in fishing practices or landings patterns.

In response to some states' concerns about changing resource availability and associated fishery impacts, the Board formed a Commercial Black Sea Bass Working Group in August 2018 to identify management issues related to changes in stock distribution and abundance, and propose potential management strategies for Board consideration. In February 2019, the Board reviewed the Working Group report. The key issue the Working Group identified is that the state commercial allocations implemented in 2003 do not reflect the current distribution of the resource, which has expanded significantly north of Hudson Canyon. The Board then requested the Plan Development Team (PDT) perform additional analyses and further develop proposed management options related to the issue of state commercial allocations. After reviewing the PDT report, in October 2019 the Board initiated Draft Addendum XXXIII to consider changes to the black sea bass commercial state allocations. In December 2019, the Council initiated a complementary amendment to consider including the state shares in the Council FMP.

Table 1. State shares of Black Sea Bass as allocated by Addendum XIX to Amendment 13.

State	Percent of Coastwide Quota
Maine	0.5 %
New Hampshire	0.5 %
Massachusetts	13 %
Rhode Island	11 %
Connecticut	1 %
New York	7 %
New Jersey	20 %
Delaware	5 %
Maryland	11 %
Virginia	20 %
North Carolina	11 %

2.3 Status of the Stock

The most recent stock status information comes from the 2019 operational stock assessment, which was peer-reviewed in August 2019 and approved for management use in October 2019 (NEFSC 2019). The assessment indicated that the black sea bass stock north of Cape Hatteras, North Carolina was not overfished and overfishing was not occurring in 2018, the terminal year of data used in the assessment.

The operational stock assessment updated the Age Structured Assessment Program (ASAP) models used in the 2016 benchmark stock assessment with commercial and recreational catch

data, research survey and fishery-dependent indices of abundance, and analyses of those data through 2018[3]. For modeling purposes, the stock was partitioned into two sub-units divided approximately at Hudson Canyon to account for spatial differences in abundance and size at age. The sub-units are not considered separate stocks. Although the stock was assessed by sub-unit, the combined results were used to develop reference points, determine stock status, and recommend fishery specifications.

Spawning stock biomass (SSB), which includes both mature male and female biomass, averaged around 8 million pounds during the late 1980s and early 1990s and then steadily increased from 1997 to 2002 when it reached 22.2 million pounds. From 2007 to 2014, SSB dramatically increased, reaching a peak in 2014 at 76.5 million pounds; since 2014 SSB has trended back down. After adjusting for retrospective error in the model, SSB in the terminal year (2018) is estimated at 73.6 million pounds, approximately 2.4 times the target SSB reference point (SSB_{MSY} proxy= SSB40% = 31.1 million pounds) (Figure 2). The (similarly adjusted) fishing mortality rate (F) in 2018 was 0.42, about 91% of the fishing mortality threshold reference point (F_{MSY} proxy= F40%) of 0.46. Except for 2017, F has been below the F_{MSY} proxy for the last five years. Average recruitment of black sea bass from 1989 to 2018 was 36 million fish at age 1. The 2011 year class was estimated to be the largest in the time series at 144.7 million fish and the 2015 year class was the second largest at 79.2 million fish. Recruitment of the 2017 year class as age 1 in 2018 was estimated at 16.0 million, well below the time series average.

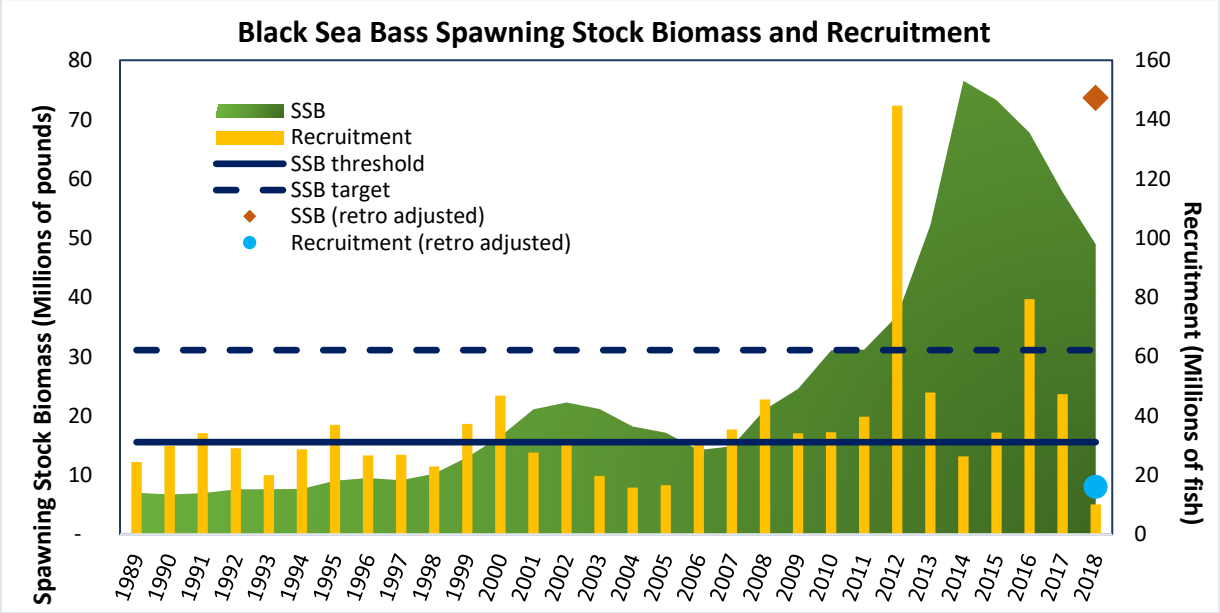

Figure 2. Black sea bass spawning stock biomass and recruitment. Source: 2019 Operational Assessment Prepublication Report, Northeast Fishery Science Center.

[3] In July 2018, the Marine Recreational Information Program (MRIP) replaced the existing estimates of recreational catch with a calibrated 1981-2017 time series that corresponds to new survey methods that were fully implemented in 2018. The new calibrated recreational estimates are significantly higher than previous estimates, especially in later years of the time series. These revised data were incorporated into the 2019 operational stock assessment. This change was one of multiple factors which impacted the understanding of overall biomass levels.

2.4 Status of the Fishery

The following information is based on commercial fishery dealer data (landings), the most recent stock assessment (discards), federal vessel trip reports (gear types and area of catch), and input from a small sample of fishermen and dealers. Input was provided by 6 individuals who primarily identify as fishermen and 4 individuals who represent two commercial fish dealers. Collectively, these 10 individuals are from 5 states and use three different gear types (i.e., bottom otter trawl, pot/trap, and hand line). Their input is not intended to be a representative sample of the commercial black sea bass fishery as a whole, but was solicited to provide context to trends shown in the data and document relevant information not captured in the available data.

Commercial landings have been constrained by a coastwide (i.e., Maine through Cape Hatteras, North Carolina) commercial quota since 1998, and state allocations were introduced in 2003. From 1998 to 2019, coastwide landings have closely followed quotas, ranging from a low of 1.16 million pounds in 2009 to a high of 3.98 million pounds in 2017. State landings have also closely followed quotas since they were implemented in 2003. A process for interstate quota transfers was established in 2009, but until 2017 states were highly constrained by low quotas and thus there was not much opportunity for transfers. Under higher quotas more interstate transfers have occurred; in the last three years, the states of Massachusetts through New Jersey have all received quota transfers from other states to prevent or mitigate overages of their state quotas. Since the coastwide quota was implemented in 1998, on average commercial discards have constituted 17% of total commercial removals. Over the last five years of the time series (2014-2018) discards were generally higher, averaging 33% of total commercial removals; discards in recent years have likely been influenced by high availability coupled with quota and minimum fish size limitations.

A comparison of average ex-vessel price per pound (i.e., the price paid to fishermen by dealers) to total annual commercial black sea bass landings during 2010-2019 suggests that the average price (adjusted to account for inflation) increased with increases in landings up to a point, with the average price peaking at $3.92 per pound in 2016 when about 2.59 million pounds were landed. At higher levels of landings (e.g., the levels seen in 2017-2019 when 3.46-4.01 million pounds were landed), the average price per pound declined again (Figure 3). Some fishermen and dealers said temporary price drops can occur at both local and regional levels due to increases in the coastwide quota, state-specific seasonal openings, or individual trawl trips with high landings, all of which can be interrelated. They note that these sudden price drops are often temporary and the price usually rises again. This is evident in the coastwide relationship between average price per pound and the coastwide quota, which increased by 52% mid-year in 2017 and then decreased by 15% from 2017 to 2018. The average coastwide price per pound dropped from $3.92 in 2016 to $3.49 in 2017, but increased to $3.82 in 2018 (all prices are adjusted to 2019 values based on the Gross Domestic Product Price Deflator).

Input from fishermen and federal vessel trip report data from 2009-2019 suggest that in years with higher quotas, bottom trawl gear accounted for a greater proportion and pots/traps accounted for a smaller proportion of total commercial landings compared to years with lower quotas. For example, the lowest quotas during 2010-2019 occurred in 20010-2012. During those years, bottom trawl gear accounted for around 39-41% of total commercial black sea bass

landings (depending on the year) and pots/traps accounted for about 33-36%. In comparison, the highest quotas occurred in 2016-2019, during which around 52-61% of total commercial black sea bass landings could be attributed to bottom trawl gear and around 21-26% to pot/trap gear. Some fishermen have said trawlers are better able to take advantage of increases in quota as they can land higher volumes than vessels using pot/trap gear. This can be especially beneficial when the price of black sea bass drops (usually temporarily) in response to sudden increases of fish on the market.

According to commercial dealer data for 2010-2019, the average coastwide ex-vessel price per pound for black sea bass caught with bottom trawl gear was $3.90 (adjusted to 2019 values), 6% greater than the average price for black sea bass caught with pots/traps ($3.70). However, some fishermen report that they can get higher prices for black sea bass caught with pots/traps as they can market their fish as fresher and better quality than trawl-caught fish. Pot/trap and hook and line commercial fishermen in some states also sell black sea bass to live markets, which offer even higher prices. Some fishermen and dealers say size has a greater impact on price than gear, though the two are interrelated as fishermen using bottom trawl gear tend to land larger black sea bass than those using pots/traps.

The states have taken different approaches to managing their commercial black sea bass fisheries. Delaware, Maryland, and Virginia use Individual Transferable Quota (ITQ) systems, while other states utilize different combinations of quota periods, closed seasons, and initial or adjustable trip and possession limits to prevent quota overages[4]. For some states like Connecticut, quota availability and resulting management measures are highly dependent on quota transfers from other states. Some fishermen and dealers say they take these differences in state management measures into account when deciding when to fish, where to sell fish, and what price to offer for fish. For example, the price offered by local dealers may be higher when neighboring states are closed. Alternatively, some fishermen and dealers in comparatively low allocation states say they generally do not make business decisions based on black sea bass. Due to the low allocations in some states, black sea bass provides supplemental income for these fishermen and dealers, but is not a primary target species. For these reasons, the economic impacts of changes to state quotas can vary in part based on how states adjust their management measures in response to quota changes. For example, an increase in the possession limit could have different impacts than an extension of the open season. ITQ fishermen may be impacted differently than non-ITQ fishermen, and impacts may vary between gear types.

From 2010-2017, the commercial black sea bass landings from Maine through North Carolina which were caught in the northern region (as defined in the stock assessment, corresponding to approximately Hudson Canyon and north) increased steadily, with the greatest increases occurring during 2015-2017. After 2017, the proportion caught in the northern region declined, but remained much higher than the proportion from the southern region. During 2010-2019, the amount of commercial black sea bass landings caught in the southern region did not vary greatly (Figure 4).

[4] Additional information on state quota management systems can be made available upon request.

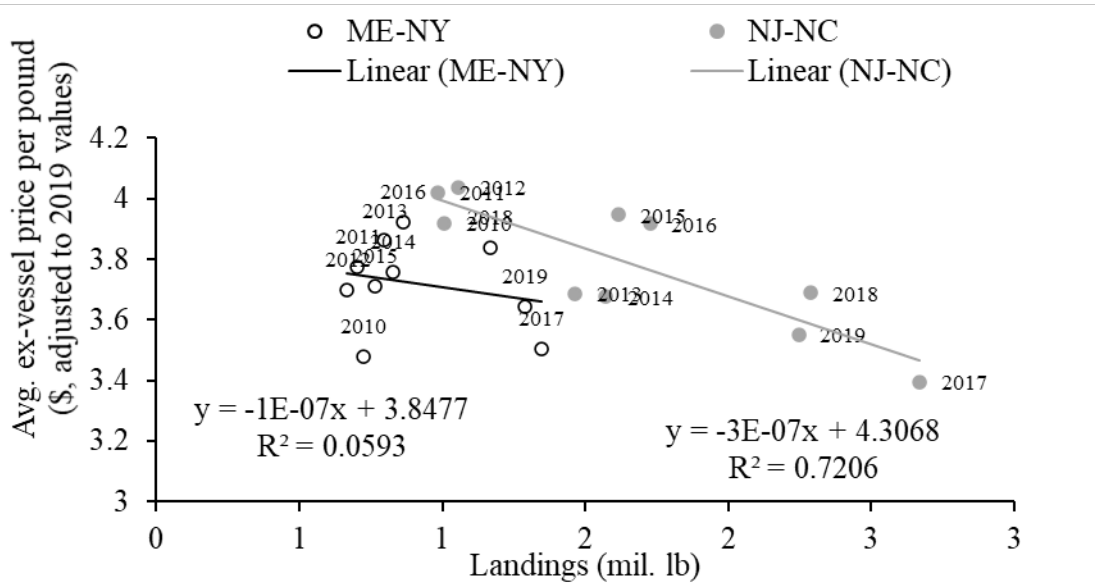

Figure 3. Average annual ex-vessel price per pound for black sea bass compared to annual black sea bass commercial landings by region (ME-NY and NJ-NC), 2010-2019, with associated linear relationship. Prices are adjusted to 2019 values based on the Gross Domestic Product Price Deflator. Data source: dealer data (CFDERS, provided by the NOAA Fisheries Greater Atlantic Regional Fisheries Office Analysis and Program Support Division).

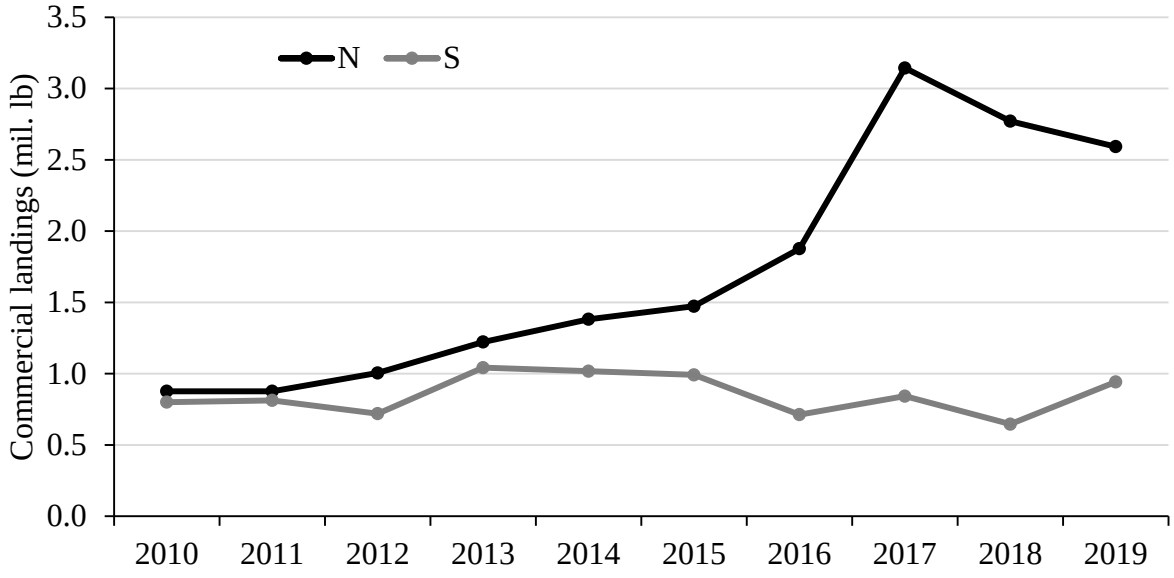

Figure 4. Total commercial black sea bass landings, 2010-2019, Maine through North Carolina, by region of catch location (North or South). Region is assigned based on statistical area of catch using the delineation defined in the stock assessment. Landings with an unknown statistical area were assigned to region based on the state of landing. Data source: dealer AA tables provided by the Northeast Fisheries Science Center

3.0 Proposed Management Program

The Board is seeking public comment on each of the options included in the Draft Addendum. A flowchart of all management options for modifying the commercial state allocations is found in Appendix 1. Note that the options listed in Section 3.2 would result in changes to the Council's FMP and the federal regulations, but not the Commission's FMP.

3.1 Management Options for Commercial State Allocations

A. Status Quo (Current Commercial State Allocations)
This option would maintain the current state allocation percentages (Table 1).

B. Increase Connecticut Quota to 5%
Note: This option is proposed for consideration before, or in addition to any of the following allocation options. It could also be selected as a standalone option if no other changes are desired. If this option is selected, the base allocations under any other option will be equal to the % New Allocations shown in Table 2.

This option would increase Connecticut's 1% allocation of the coastal quota to 5%. Connecticut has experienced a substantial increase in abundance of black sea bass in state waters over the last seven years (see Figure 5), though the state's 1% allocation has remained unchanged. This option attempts to reduce the disparity between the abundance of black sea bass in Connecticut waters and Connecticut's quota allocation by increasing Connecticut's allocation to 5%, using the following approach:

1) Hold New York and Delaware allocations constant. New York has experienced a similar substantial increase in black sea bass abundance in state waters; therefore, a reduction to the New York allocation is not proposed. Delaware's current allocation is 5%. This option does not seek to make Connecticut's percent allocation larger than any other state.
2) Move half of Maine and New Hampshire quotas to Connecticut. Since 2012, neither Maine nor New Hampshire has reported commercial black sea bass landings, and neither state currently has declared an interest in the fishery.
3) Move some allocation from Massachusetts, Rhode Island, New Jersey, Maryland, Virginia, and North Carolina to Connecticut; the amount moved from each state would be proportional to that state's current percent allocation.

Table 2. Proposed changes in state allocations.

State	Current % Allocation	Change in % Allocation	New % Allocation
ME	0.5%	-0.25%	0.25%
NH	0.5%	-0.25%	0.25%
MA	13.0%	-0.53%	12.47%
RI	11.0%	-0.45%	10.55%
CT	1.0%	4.00%	5.00%
NY	7.0%	0.00%	7.00%
NJ	20.0%	-0.81%	19.19%
DE	5.0%	0.00%	5.00%
MD	11.0%	-0.45%	10.55%
VA	20.0%	-0.81%	19.19%
NC	11.0%	-0.45%	10.55%

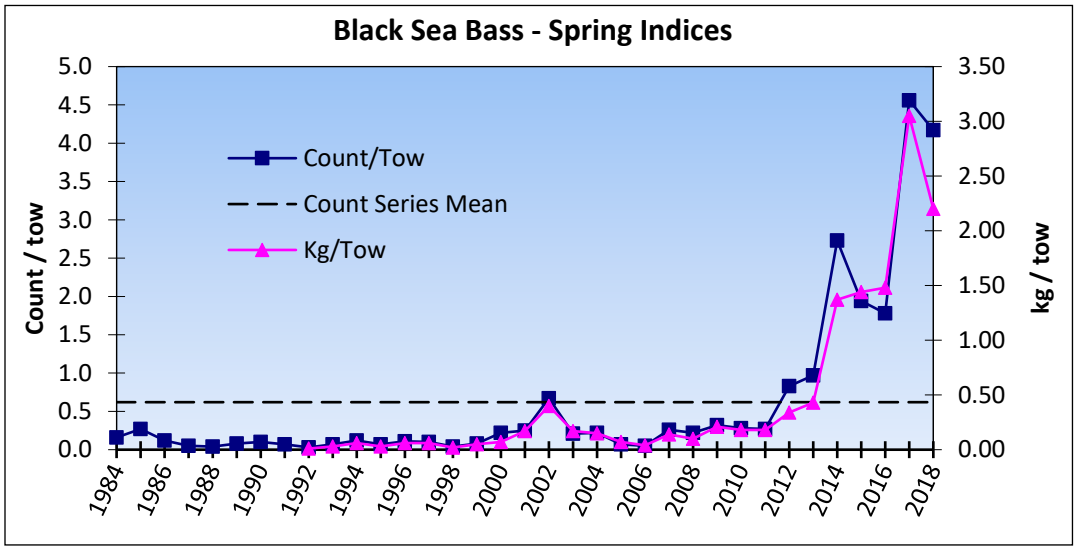

Figure 5. Connecticut Long Island Sound Trawl Survey Spring Black Sea Bass Index

C. Dynamic Adjustments to Regional Allocations

The Dynamic Adjustments to Regional Allocations approach (DARA approach) is a formulaic method that aims to balance fishery stability and responsiveness to the changing distribution of the stock. State allocations would be gradually adjusted based on regional shifts in biomass distribution. Stock distribution (defined as proportion of exploitable biomass by assessment sub-area) would be derived from updated stock

assessments or surveys[5]. This approach recognizes traditional involvement and investment in the development of the fishery, and addresses the changing distribution of the stock and the resulting effects within the fishery.

There are two phases to the DARA approach. The first is the transition phase, during which the initial allocations (either the current allocations, or allocations modified through option B) are gradually adjusted to allocations partially based on distribution of the stock. During this phase, the state allocations become less dependent on the initial allocations and more dependent on regional stock distribution.

After the transition phase is complete, the relative importance of the initial allocations and current stock distribution in determining the allocations would be fixed, but allocations would continue to be adjusted when updated stock distribution information becomes available. The DARA approach proposes use of the 2019 operational stock assessment results (NEFSC, 2019) and additional stock assessments thereafter to determine the values for regional stock distribution[6]. Taking into account the initial allocations and regional stock distribution, the two components are integrated to produce dynamic regional allocation shares, which are then subdivided into state-specific allocations. The formulas for calculating regional and state shares can be found in Appendix 2.

As described below, there are various sub-options to set the scale and pace of the change in allocations. Appendix 2 includes a complete description of the method and examples of the DARA approach retrospectively applied to recent years. If this option is selected, a regional configuration would also need to be selected under option set G.

Sub-options for Dynamic Adjustments to Regional Allocations Approach

The DARA approach affords considerable flexibility, with regard to both the initial configuration and application of the allocation formula over time. The overall approach can be modified in various ways to achieve different results. Below are descriptions and proposed sub-options for each adjustable component of the approach. Note that the sub-options for each component represent the minimum and maximum bounds on the range of options; the Board and Council could select an alternative configuration within this range.

1. Final relative importance of initial allocations versus resource distribution

The sub-options below determine the final relative importance of the initial allocations compared to stock distribution at the end of the transition phase. Before the transition begins (year 0), the allocations are 100% based on the initial allocations, and 0% based

[5] This option is modeled after the Transboundary Management Guidance Committee (TMGC) approach, which was developed and used for the management of Georges Bank resources shared by the United States and Canada (TMGC, 2002).

[6] The Board may specify alternative information (e.g. NEFSC Trawl Survey) to be used in the case that future assessments cannot provide information on regional stock distribution.

on stock distribution. The weights assigned to initial allocations and stock distribution must always sum to 100%; therefore, if the final weight of the initial allocations is 10%, the final weight of the resource distribution factor is 90%. As the final weight of the distribution factor increases, the weight of the initial allocations decreases, and the regional allocations resulting from the DARA approach become more dependent on the spatial distribution of black sea bass biomass, and less dependent on the initial allocations.

- **Sub-option C1-A:** Under this option, at the end of the transition phase allocations are based 90% on stock distribution and 10% on the initial allocations.
- **Sub-option C1-B:** Under this option, at the end of the transition phase allocations are based 50% on stock distribution and 50% on the initial allocations.

2. Change in relative weights of each factor per adjustment

The transition to allocations based partially on historical allocations and partially on resource distribution would occur through incremental adjustments to the relative importance of each factor. These sub-options would determine how much the relative weights of the initial allocations and stock distribution factors would change with each adjustment. Larger adjustments could potentially result in a faster transition away from the initial allocations (see above). Smaller adjustments would likely result in a slower transition. Adjustments to the relative weights of each factor also have the potential to impact the regional allocations during the transition; smaller changes to the weights would likely produce smaller changes in the regional allocations during each adjustment.

- **Sub-option C2-A:** Under this option the relative weights of each factor (initial allocations and stock distribution) would change by 5% per adjustment. For example, in the first adjustment, the respective weights assigned to the initial allocations and stock distribution would change from 100%/0% to 95%/5%. This would result in a slower transition to the final weighting scheme, and a slower change in the allocations compared to sub-option C2-B.
- **Sub-option C2-B:** Under this option the relative weights of each factor (initial allocations and stock distribution) would change by 20% per adjustment. For example, in the first adjustment, the respective weights assigned to the initial allocations and stock distribution would change from 100%/0% to 80%/20%. This would result in a faster transition to the final weighting scheme and a faster change in the allocations compared to sub-option C2-A.

3. Frequency of weight adjustments

These sub-options determine how often the weights assigned to each factor (initial allocations and stock distribution) would be adjusted during the transition phase. More frequent adjustments to the weights will result in a faster transition to the final weighting scheme. Note that each time an adjustment is made to the weights, it would

likely result in a change to the allocations, even if the distribution information remains unchanged.

- **Sub-option C3-A:** Under this option adjustments to the weights assigned to the initial allocations and stock distribution would occur every year. This would result in a faster transition from the initial weights to the final weights. It could also result in yearly changes in the allocations, even if stock distribution information remains unchanged.
- **Sub-option C3-B:** Under this option adjustments to the weights assigned to the initial allocations and stock distribution would occur every other year. This would result in a slower transition from the initial weights to the final weights. It could also result in changes to the allocations every other year, even if stock distribution information remains unchanged.

4. Regional allocation adjustment cap

These sub-options would establish a cap for the maximum percent by which the regional allocations could change at one time. A lower % cap would result in smaller incremental changes to the allocations, and could increase the total duration of the transition phase.

- **Sub-option C4-A:** This option would cap the change in regional allocations at a maximum of 3% per adjustment.
- **Sub-option C4-C:** This option would cap the change in regional allocations at a maximum of 10% per adjustment.
- **Sub-option C4-D:** Under this option there would be no cap to the change in regional allocations per adjustment. This means the regional allocations would change according to the formula based only on changes in the weights assigned to the initial allocations and stock distribution and any changes in resource distribution values.

D. Trigger Approach

Using a trigger-based approach, a minimum level of coastwide quota would be established as a trigger for a change in allocations to the states. If the coastwide quota in a given year were higher than the established quota trigger value, then the coastwide quota would be distributed to the states in two steps: 1) the amount of coastwide quota up to and including the trigger would be distributed to the states according to "base allocations" (dependent on Option B, and sub-option set D4); and 2) the amount of quota in excess of the established trigger amount, hereafter referred to as the surplus quota, would be distributed using a different allocation scheme. This method somewhat reduces fishery disruption or instability by allowing changes to state allocations only when the coastwide quota exceeds a predetermined amount.

Trigger Approach Sub-options

Below are all sets of sub-options for configuration of the trigger approach. The first set of sub-options relates to the established trigger value (sub-options D1-A and D1-B). The second set relates to how surplus quota above the trigger would be distributed among

the states (sub-options D2-A, and D2-B). The third and fourth sub-option sets are only applicable if option D2-B is selected, and would establish how surplus quota would be distributed within a region, and whether base allocations would remain the same each year or change over time. Examples of several trigger approach configurations are provided in examples 1-6 in Appendix 3.

1. Trigger value

Note that the Board and Council could select an alternative value within the range of sub-options below.

- **Sub-option D1-A: Trigger value of 3 million pounds**
  A 3 million pound trigger represents approximately the average coastwide commercial quota from 2003 through 2018, excluding years in which specifications were set using a constant catch approach (Figure 6).
- **Sub-option D1-B: Trigger value of 4.5 million pounds**
  A 4.5 million pound trigger was selected by the Board as the maximum trigger level for consideration under this approach. It is greater than all quotas implemented prior to 2020 (i.e., maximum quota of 4.12 million pounds in 2017), but lower than the 2020 quota of 5.58 million pounds (Figure 6).

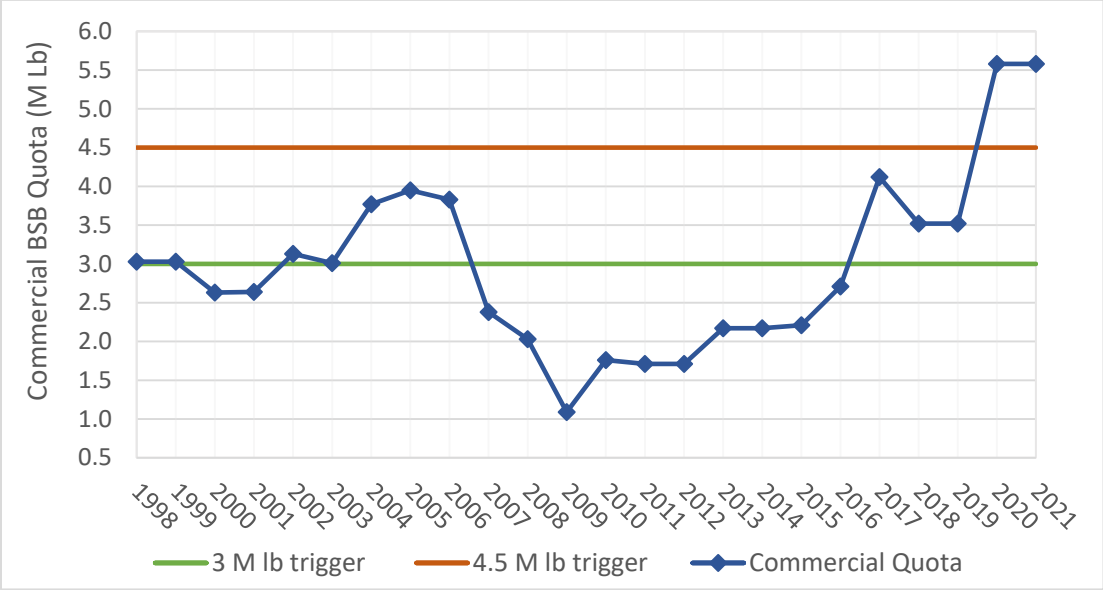

Figure 6. Black sea bass commercial quotas over time compared to 3 million, 4 million and 4.5 million pound triggers. Note that the Board and Council may recommend revisions to the 2021 quota during their August 2020 meeting.

2. Distribution of surplus quota

- **Sub-option D2-A: Even distribution of surplus quota**
  If the coastwide quota in a given year is higher than the trigger, then the surplus quota would be distributed equally to the states of Massachusetts through North Carolina. Maine and New Hampshire would each receive 1% of the surplus, based on their historically low participation in the fishery. Should the annual

coastwide quota be less than or equal to the established quota trigger, allocation percentages would default to the base allocations.

- **Sub-option D2-B: Distribution of surplus quota based on regional biomass from stock assessment**
  This sub-option attempts to address the goal statement of this action by incorporating the regional biomass distribution. If the coastwide quota in a given year were higher than the trigger, then the surplus quota would first be allocated to each region based on regional biomass proportions from the stock assessment, and then the regional quotas would be distributed to the states within each region. A method for distributing quota to states within each region would be specified by selecting sub-option D3-A or D3-B. If this option is selected, a regional configuration would also need to be selected under option set G.

3. Distribution of regional surplus quota to states within a region (*only applicable if Sub-option D2-B is selected*)

- **Sub-option D3-A: Even distribution of regional surplus quota**
  Regional surplus quota would be distributed to the states within each region equally. ME and NH would each receive 1% of the northern region surplus quota. Examples of this allocation approach are provided in Appendix 3 (examples 3 and 5).
- **Sub-option D3-B: Proportional distribution of regional surplus quota**
  Regional surplus quota would be distributed to the states within each region in proportion to their initial allocations (see sub-option set D4). ME and NH would each receive 1% of the northern region surplus quota.

4. Allowing base allocations to change over time (*only applicable if Sub-option D2-B is selected*).

- **Sub-option D4-A: Static base allocations**
  Under, this sub-option, the quota up to and including the trigger amount would be allocated based on the initial base allocations every year (status quo, or the modified allocations proposed in Option B). Examples of this allocation approach are provided in Appendix 3 (examples 1-3).
- **Sub-option D4-B: Dynamic base allocations**
  Under this option, the quota up to and including the trigger amount would be allocated according to the previous year's final state allocations. This sub-option has the potential to change allocations more quickly than the static base allocations sub-option. Examples of this allocation approach are provided in Appendix 3 (examples 4-6).

E. Trigger Approach with Increase to Connecticut and New York Quotas First

This option proposes a 3 million pound trigger (see previous section). Annually, the coastwide quota up to and including 3 million pounds would be distributed based on the initial allocations (Table 1). Surplus quota above 3 million pounds would first be used to

increase Connecticut's allocation to 5% of the overall quota, and then to increase New York's allocation to 9% of the overall quota. Any remaining additional quota would be split between the regions according to the proportion of biomass in each region based on the most recent stock assessment information, and then allocated among the states within each region in proportion to the initial allocations. Examples of this option are provided in Appendix 3 (examples 7 and 7-B). If this option is selected, a regional configuration would also need to be selected under option set G.

F. Percentage of Coastwide Quota Distributed Based on Initial Allocations

This approach would allocate a fixed percentage of the annual coastwide quota using the initial allocations regardless of the coastwide quota level. Fluctuations in annual quota values would result in similar fluctuations in the number of pounds allocated using the initial allocations (equal to the status quo allocations, or the modified allocations proposed under Option B). For example, if the established percentage of quota to be distributed using the initial allocations is 50%, 2 million pounds of a 4 million pound coastwide quota would be distributed using the initial allocations. Unlike the trigger approach, this approach would still allow a portion of the quota to be allocated using a distribution other than the initial allocations even under lower coastwide quotas. The sub-options below establish how the remaining quota would be allocated to the states.

Percentage Approach Sub-options

Below are all sets of sub-options for configuration of the percentage approach. Examples of several percentage approach configurations are provided in Appendix 3 (examples 8-12).

1. Percentage of quota to be allocated using initial allocations

Note that the Board and Council could select an alternative value within the range of sub-options below.

- **Sub-option F1-A: 25%**
  Under this sub-option, 25% of the annual coastwide quota would be allocated to the states using the initial allocations. Therefore, 75% of the coastwide quota would be allocated to the states according to the sub-options selected in the following sets.
- **Sub-option F1-B: 75%**
  Under this sub-option, 75% of the annual coastwide quota would be allocated to the states using the initial allocations. Therefore, 25% of the coastwide quota would be allocated to the states according to the sub-options selected in the following sets.

2. Distribution of remaining quota

- **Sub-option F2-A: Even distribution of remaining quota**

Remaining quota would be distributed equally to the states of Massachusetts through North Carolina. Maine and New Hampshire would each receive 1% of the remaining quota, based on their historically low participation in the fishery.

- **Sub-option F2-B: Distribution of remaining quota based on regional biomass from stock assessment**
  Remaining quota would first be allocated to each region based on regional biomass proportions from the stock assessment, then regional quotas would be distributed to the states within each region. A method for distributing quota to states within each region would be specified by selecting sub-option F3-A or F3-B. If this option is selected, a regional configuration would also need to be selected under option set G.

3. Distribution of regional quota to states within a region
(*Only applicable if Sub-option F2-B is selected*)

- **Sub-option F3-A: Even distribution of regional quota**
  Remaining quota would be distributed to the states within each region equally, except ME and NH would each receive 1% of the northern region quota.
- **Sub-option F3-B: Proportional distribution of regional quota**
  Remaining quota would be distributed to the states within each region in proportion to their initial allocations, except ME and NH would each receive 1% of the northern region quota.

G. Regional Configuration Options

Options C through F consider changing the current state allocations to incorporate regional distribution information from the stock assessment. In order to apply a regional component to the allocations, it is necessary to establish a regional configuration. The following sub-options establish which states would be grouped together as regions for the purposes of allocating a combined regional quota which would then be distributed to the states in each region. Though neither state has declared an interest in the fishery, Maine and New Hampshire are included in the northern region and their allocations will be determined according to the allocation approach selected above.

- **Sub-option G1:** This option would establish two regions: 1) ME-NY, and 2) NJ-NC. These regions generally align with those used for the assessment, which used Hudson Canyon as the dividing line based on several pieces of evidence that stock dynamics have an important break in this area.
- **Sub-option G2:** This option would establish three regions: 1) ME-NY; 2) NJ; and 3) DE-NC. This option attempts to address the unique position of New Jersey by treating it as a separate region, as the state straddles the border between the northern and southern spatial sub-units at Hudson Canyon (Figure 7). Under this option, New Jersey's initial 20% allocation is treated as follows: 10% is considered to come from the northern region, and 10% from the southern region. As the regional allocations change, NJ's "northern" 10% of the coastwide quota will change according to the proportion of biomass in northern region, and

the "southern" 10% will change according to the proportion of biomass in the southern region. NJ's total allocation will be the sum of the northern and southern components of its allocation. This is consistent with the spatial distribution of black sea bass landings in recent years, which is roughly an even split between north and south of Hudson canyon (see Table 3 and Figure 8).

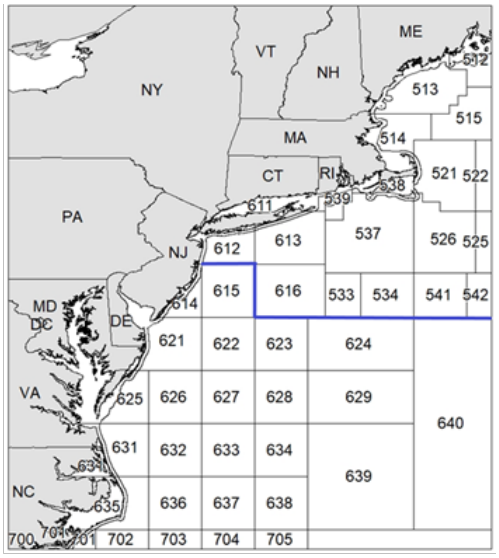

Figure 7. NMFS statistical areas showing the dividing line between the northern and southern regions as defined in the black sea bass stock assessment.

Table 3. Proportion of black sea bass commercial harvest landed in New Jersey from northern and southern region statistical areas. Only landings associated with valid northeast region statistical areas were included in the calculations. Data were provided by the ACCSP. Landings by area were estimated by applying VTR proportions of landings by area to dealer data.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	**Average 2010-2019**	**Average 2010-2014**	**Average 2015-2019**
% North	38%	28%	47%	46%	54%	78%	65%	74%	58%	57%	**54%**	**43%**	**66%**
% South	62%	72%	53%	54%	46%	22%	35%	26%	42%	43%	**46%**	**57%**	**34%**

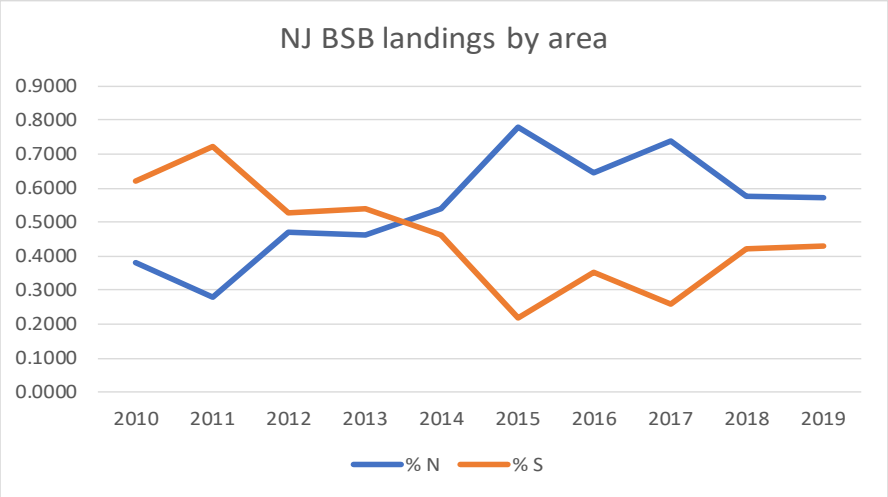

Figure 8. Proportion of black sea bass commercial harvest landed in New Jersey from northern and southern region statistical areas by year.

3.2 Management Options for Changes to Federal Regulations (Section Revised 7/28/2020)

This action will also consider 1) whether the state allocations should be added to the Council's FMP or if they should remain only in the Commission's FMP, 2) if added to the Council's FMP, should changes be made to the regulations regarding paybacks of state quota overages, and 3) whether to modify regulations regarding federal in-season closures. The following options relate to Council management and the federal regulations.

3.2.2 Options for adding state commercial allocations to the Council FMP

A. Status Quo (No action): Commercial state allocations included only in the Commission's FMP

Under this option, the black sea bass commercial state allocations would remain only in the Commission's FMP. Changes to these allocations would not require a joint action with the Council.

B. Commercial state allocations for black sea bass included in both Commission and Council FMPs

Under this option, the state allocations would be added to the Council's FMP. Future changes to the allocations would be considered through a joint action between the Commission and Council.

Including the state allocations in both FMPs would require NOAA Fisheries to monitor landings at the state level. Transfers of quota between states would continue to be allowed, but would be managed by NOAA Fisheries, rather than the Commission. It should be noted there are differences between the two bodies in how transfers are conducted. The Commission allows for transfers to occur at any time in the fishing season up to 45 days after the last day of the fishing season. Commission transfers are not limited. While NOAA Fisheries allows for late season quota transfers for other species, they are limited to unforeseeable late season events. Generally, the deadline

for a state to submit routine transfer requests is the close of business on December 16. While the Commission allows for transfers at the end or after the fishing season to help states balance quota overages, NOAA Fisheries would likely not allow for such transfers unless the overage was unforeseen in the last two weeks of the fishery; the burden of proof would then be on the state to justify the transfer.

If the Council and Board select this option, the following sub-options could modify the Council's FMP to establish how overages of state quotas are handled. Summer flounder and black sea bass are managed under the same FMP. Given differences in how state quota overages are currently addressed for black sea bass and summer flounder, the Council and Board agreed to consider the following two sub-options related to overages of black sea bass state allocations.

- **Sub-option B1: Paybacks only if coastwide quota is exceeded**. Under this option, states would only pay back overages of their allocations if the entire coastwide quota is exceeded. This is the current process for state-level quota overages under the Commission's FMP (Addendum XX). No other changes to the current commercial accountability measure regulations would be made.
- **Sub-option B2: States always pay back overages**. Under this option, the exact amount in pounds by which a state exceeds its allocation would be deducted from their allocation in a following year, regardless of if the coastwide quota was exceeded or not. All other aspects of the commercial accountability measures would remain unchanged.

3.2.2 Options for federal in-season closures

The Board and Council are considering three options related to in-season federal closures. The current regulations for in-season closures require the entire commercial fishery to close in-season for all federally permitted vessels and dealers, regardless of state, once the coastwide quota is projected to be landed. This has not occurred to date; however, concerns have been expressed about the potential for overages in some states to impact all states through in-season closures.

The following options specify when the commercial fishery would close in-season for all federal permit holders coastwide. Under all options below, individual states would close in-season if their allocations are reached prior to the end of the year, as is currently required under the Commission's FMP.

A. Status Quo (No action): coastwide federal in-season closure when landings are projected to exceed the coastwide quota

Under this option, the entire commercial fishery would close in-season for all federally permitted vessels and dealers, regardless of state, once the coastwide quota is projected to be landed, as is currently required under the Council's FMP.

B. Coastwide federal in-season closure when landings are projected to exceed the commercial quota plus a buffer of up to 5%

Under this option, the entire commercial fishery would close in-season for all federally permitted vessels and dealers, regardless of state, once landings exceed the coastwide

quota plus an additional buffer of up to 5%. The Council and Board would agree to the appropriate buffer for the upcoming year through the specifications process. The intent behind allowing an additional buffer is to help minimize negative economic impacts of coastwide closures on states that have not fully harvested their allocations. This is not expected to create an incentive for quota overages as states would still be required to close when their state-specific quotas are reached and states would still be required to pay back quota overages (see sub-option set above).

C. Coastwide federal in-season closure when the commercial ACL is projected to be exceeded.

Under this option, the entire commercial fishery would close in-season for all federally permitted vessels and dealers, regardless of state, once the coastwide commercial ACL is projected to be landed, as opposed to when the quota is projected to be landed under the current regulations. Discards in weight cannot be monitored in-season using current discard estimation methods. Therefore, in practice, this option would require GARFO to make assumptions about discards in the current year.

4.0 Compliance

TBD

5.0 Literature Cited

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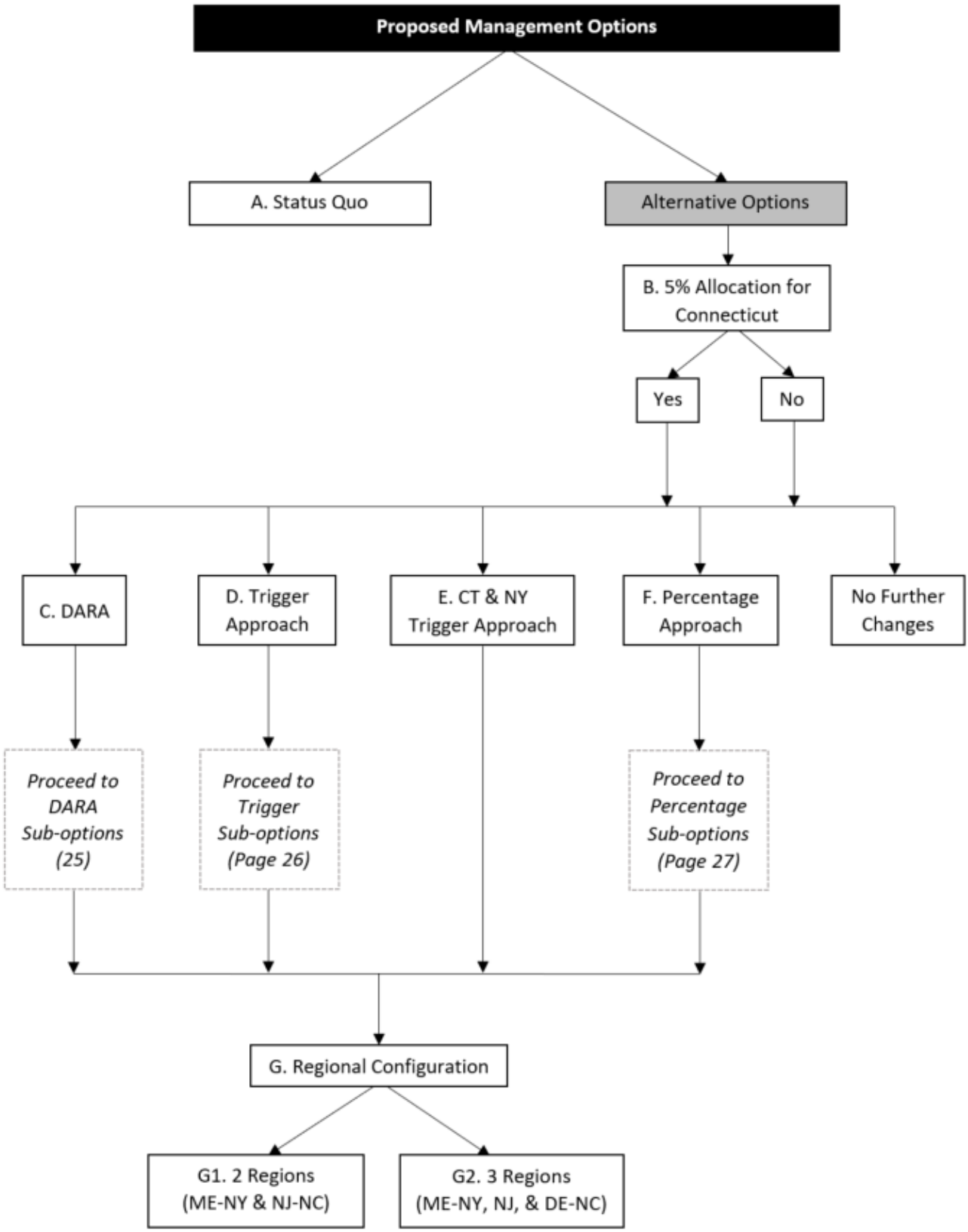
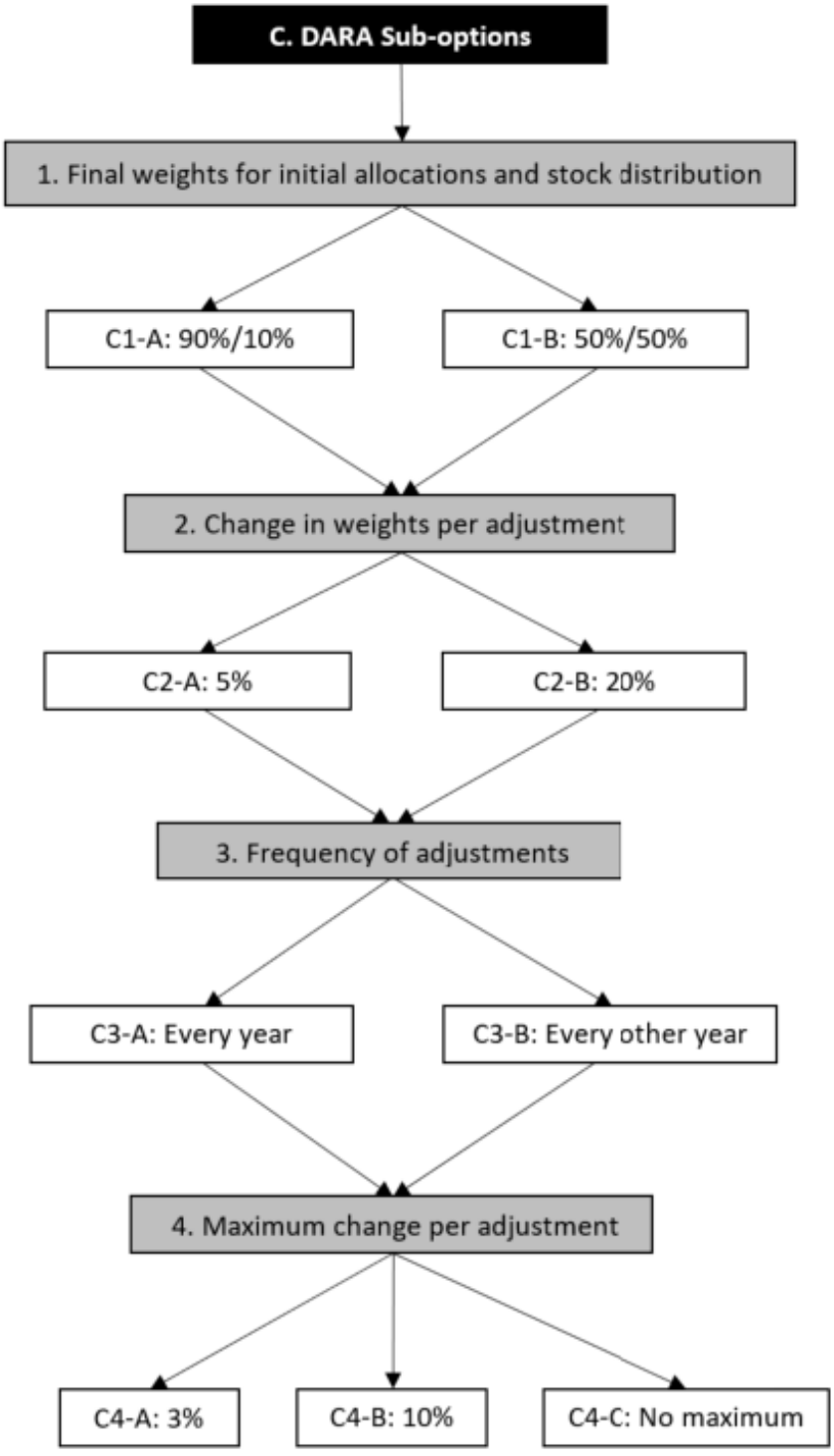
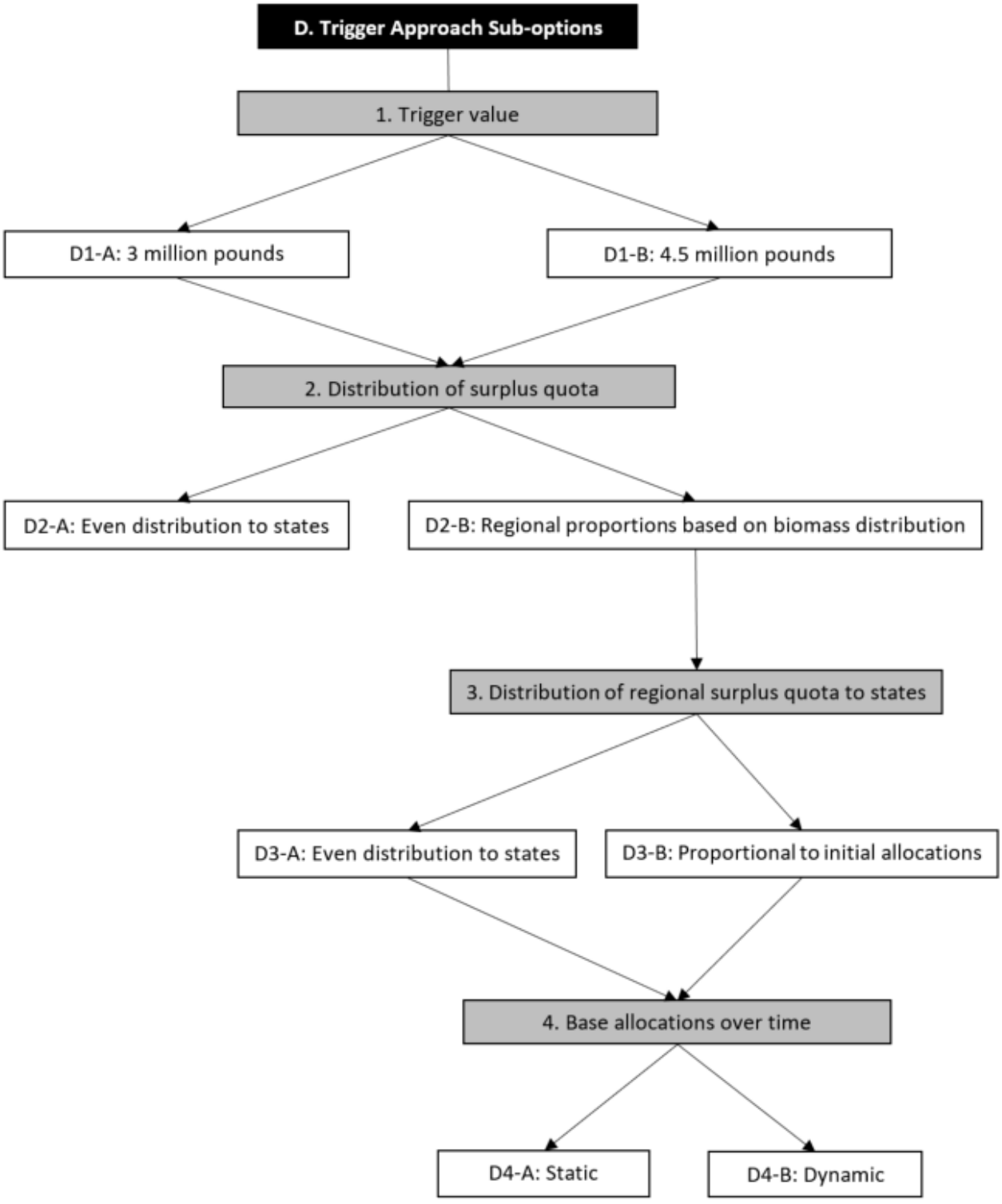
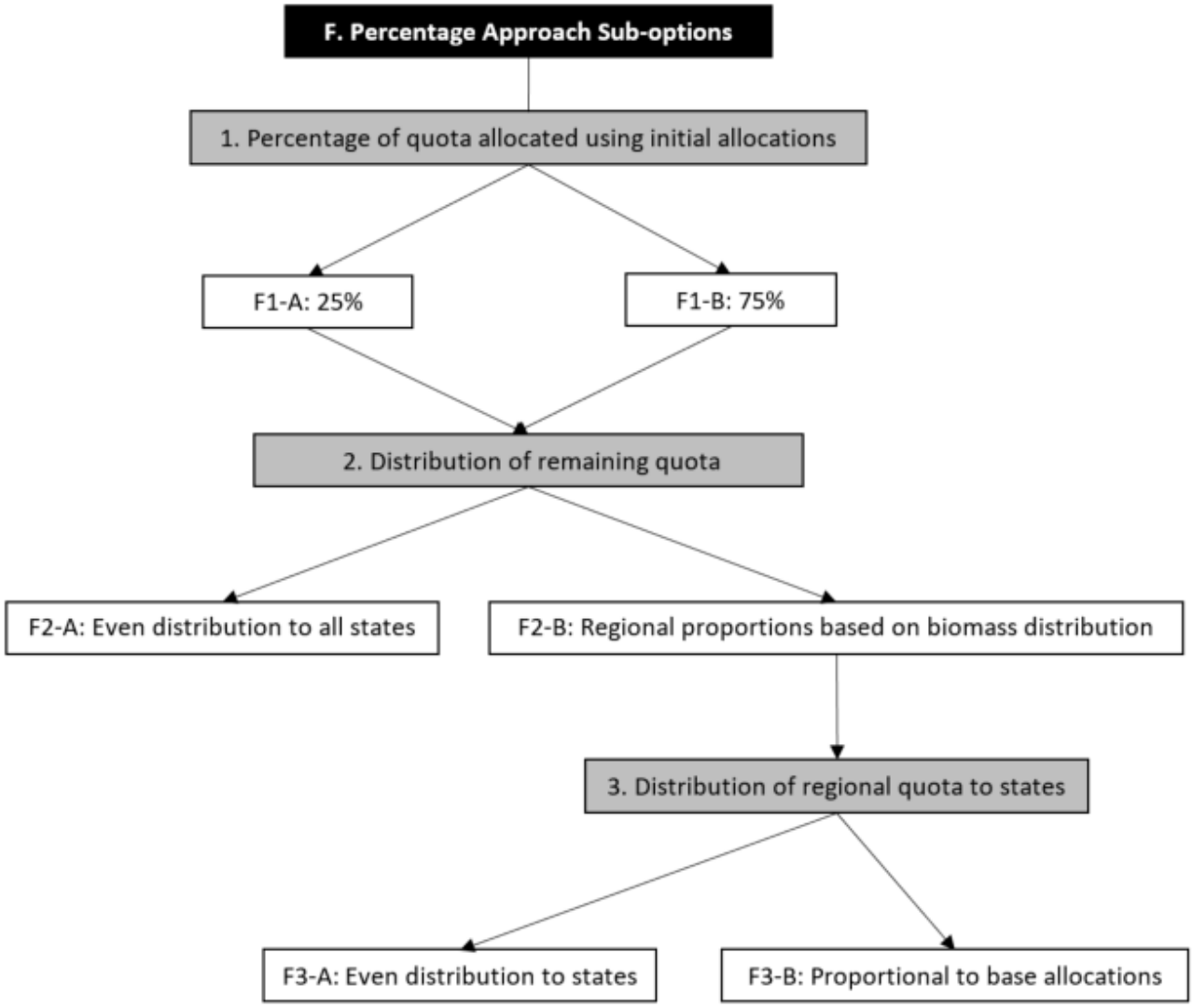
Appendix 1. Flowchart of Management Options for Commercial State Allocations




C. DARA Sub-options
1. Final weights for initial allocations and stock distribution
C1-A: 90%/10%
C1-B: 50%/50%
2. Change in weights per adjustment
C2-A: 5%
C2-B: 20%
3. Frequency of adjustments
C3-A: Every year
C3-B: Every other year
4. Maximum change per adjustment
C4-A: 3%
C4-B: 10%
C4-C: No maximum


D. Trigger Approach Sub-options
1. Trigger value
D1-A: 3 million pounds
D1-B: 4.5 million pounds
2. Distribution of surplus quota
D2-A: Even distribution to states
D2-B: Regional proportions based on biomass distribution
3. Distribution of regional surplus quota to states
D3-A: Even distribution to states
D3-B: Proportional to initial allocations
4. Base allocations over time
D4-A: Static
D4-B: Dynamic


F. Percentage Approach Sub-options
1. Percentage of quota allocated using initial allocations
F1-A: 25%
F1-B: 75%
2. Distribution of remaining quota
F2-A: Even distribution to all states
F2-B: Regional proportions based on biomass distribution
3. Distribution of regional quota to states
F3-A: Even distribution to states
F3-B: Proportional to base allocations

Proposed New Allocation Alternative For Black Sea Bass: Dynamic Adjustment to Regional Allocations (DARA)

Black Sea Bass PDT

17 July 2020

Introduction

This proposal offers a new alternative for modifying the allocation of the commercial black sea bass quota. It involves a dynamic approach for gradually adjusting state-specific allocations using a combination of historical allocations and current levels of stock distribution. The alternative is modeled after the Transboundary Management Guidance Committee (TMGC) approach, which was developed and used for the management of shared Georges Bank resources between the United States and Canada.

As noted by Gulland (1980), the designation of units for management entails a compromise between the biological realities of stock structure and the practical convenience of analysis and policy making. For black sea bass, the Atlantic Coast states from North Carolina to Maine - acting through and by the MAFMC, ASMFC, and GARFO – use a single management unit encompassing the entire region occupied by the stock, from the southern border of North Carolina northward to the U.S.- Canadian border. While there is a general scientific consensus that the black sea bass population has shifted its center of biomass to the northen portion of its range (Bell et al. 2014 and NEFSC 2017), the current management structure, as reflected by current state-by-state allocations, does not recognize this new population dynamic.

This new alternative sets forth an approach that balances stability within the fishery, based on historical allocations, with gradual adjustments to the fishery, based on regional shifts in stock distribution emanating from updated stock assessments or surveys. The approach affords considerable flexibility, both with regard to initial configurization and application over time. A key feature involves the use of an algorithm to guard against abrupt shifts in allocations.

This new alternative draws upon established principles of resource sharing, which include consideration of access to resources occurring or produced in close spatial proximity to the states in the management unit and historical participation in the exploitation of the resources (Gavaris and Murawski 2004). The former has emerged from the changing distribution of the black sea bass resource and the effects this creates within the fishery. The latter recognizes traditional involvement and investment in the development of the fishery since the the beginning of black sea bass joint management in 1996. Both principles were incorporated in the TMGC approach; historical participation was initially afforded primary emphasis, then gradually down-weighted so that, after a nine-year phase-in period, the annual allocation was based primarily on stock distribution (Murawski and Gavaris 2004). The approach proposed here for black sea bass is similar; the proposal envisions a gradual transition, giving more weight to historical participation at first, then slowly phasing in the distributional aspects over time, and then implements changes to state specific allocations through a two-step process.

Details for the calculations used for the TMGC approach were described by Murawski and Gavaris (2004). Modifications to that approach are necessary, given key differences between the shared Georges Bank resources and the shared black sea bass resource. Those differences include the state-by-state allocation system currently in place for black sea bass, the need to translate from regional to state-specific allocations, and the need to accomodate multiple jurisdictional differences in the fishery.

This new alternative proposes use of existing state-by-state allocations to reflect initial values for historical participation (aka initial allocations) and proposes use of the 2019 update stock assessment results(NEFSC 2019) to determine the values for stock distribution; the two values are then integrated in the form of regional shares. An alternative to using the stock assessment would be to use synoptic trawl survey information. This potential alternative is described in more detail below. The two regions as defined in the assessment are proposed: (1) ME - NY, (2) NJ - NC. They emanate from the spatial stratification of the stock in to units that generally align with those used for the assessment, which used the Hudson Canyon as the dividing line based on several pieces of evidence that stock dynamics had an important break in this area. These regional shares are then sub-divided into state-specific allocations.

The overall approach can be modified by the Board and Council in various ways. For example, sub-alternatives can be developed for:

- the regional configuration;
- the values for historical participation/initial allocations (e.g., current, status quo allocations, or some variant thereof);
- the weighting values for Initial Allocation and Stock Distribution (90:10, or some variant thereof);
- the increment of change in these values from one year to the next (10%/year, or some variant thereof, and;
- the periodicity of adjustments (e.g., annually vs. biannually).

A cap can also be established to limit the amount of change to the allocations during an adjustment (e.g. 3%-10%).

Data and Methods

Formula

Adapted from the TMGC application (TMGC 2002), the approach for calculating the respective regional shares, which takes historical utilization in to account and adapts to shifts in stock distribution, is as follows:

$$\%RegionalShare = (\alpha_y * \sum_r StateSpecAlloc) + (\beta_y * \%ResDistr_{r,y}) \quad (1)$$

Where α_y = percentage weighting for utilization by year; β_y = percentage weighting for stock distribution by year; $\alpha_y + \beta_y = 100\%$; $StateSpecAlloc$ = state specific allocation; $ResDistr$ = stock distribution; r = region; y = year

Proposed regions:
There are two choices for regional configuration: (1) ME - NY and NJ - NC, or (2) ME - NY, NJ, and DE - NC.

Proposed values for historical participation/initial allocation:
See Initial Allocation section below.

Proposed values for stock distribution:
The current proposal is to use the distribution in the two regions based on the stock assessment exploitable biomass calculations. This could be altered to use synoptic trawl survey information, therefore stock distribution would be based on most recent trawl survey information in that case.

Proposed percentage weighting values for initial allocation and stock distribution:
The initial sharing formula is proposed to be based on the weighting of initial allocation (from historical allocations) by 90% and the weighting of stock distribution by 10%. By the end of the period the shares will be the reciprocal; initial allocation at 10% and stock distribution at 90%. Additional alternatives are presented below.

Proposed increments of change in the weighting values from one adjustment period to the next: Initially proposed at 10% per period. Thus, 90:10 to begin, then: 80:20, 70:30, 60:40, 50:50; 40:60; 30:70; 20:80,

concluding at 10:90. Other alternatives are tested below.

Proposed periodicity of the adjustments:
Bi-annually based on stock assessment updates. If the survey alternative were used, this could be increased to annually.

Overall time horizon for the transition:
The initial proposal would conclude in 9 years. If commenced in 2020, it would conclude in 2028. The duration is dependent on the other options chosen

With these - or alternative - parameters assigned, the region-specific shares then need to be prorated into the existing state-specific allocation structure. This can be accomplished by the equation:

$$NewStateAllocation = \frac{Allocation_s}{\sum_r StateSpecAlloc} * \%RegionalShare \quad (2)$$

Where $Allocation_s$ = the specific state being calculated and the other parameters have already been defined above. This formula basically takes the existing state specific allocations and reproportions them in to the share they represent within the region.

Initial Allocations

Historical state-specific commercial allocations for black sea bass are codified in Amendment 13 to the Fishery Management Plan for Black Sea Bass (FMP) (MAFMC 2003) (Table 2). These allocations can serve as the basis for the initial allocation values in the allocation formula. These values, as used in the formula, would remain consistent throughout the reallocation process, even as the final state allocations change over time, based on equations 1 and 2. This is philosophically consistent with the FMP, as this portion of the allocation formula is meant to represent the historical fishing aspects of the black sea bass fishery.

However, alternative strategies (set forth in the form of sub-alternatives) could be used to set the initial allocation design. That is, the initial initial allocation portion of the allocation design could be adjusted, via revised state allocations, before transitioning into the formulaic approach to be used as the process moves forward.

One way to implement this type of approach would be the following, working from equation 2 above:

$$NewStateAllocation = \frac{Allocation_s + \lambda_s}{\sum_r StateSpecAlloc} * \%RegionalShare \quad (3)$$

Where λ = a state specific allocation additive or reduction factor and s = the state being calculated.

This formula allows for a shift in initial (status quo) allocations to account for potential discrepencies believed to be represented in the existing allocations. Currently, a proposal to add an initial amount to CT's allocation has been considered by the black sea bass management board, so using the equation above, a new allocation amount (λ) would be added to the historical allocation for CT (s).

Stock Distribution

This proposal offers two options for calculating the stock distribution. The first option would be to use the spatial stock assessment to determine the amount of resource in each region (north = NY, CT, RI, MA, NH, ME; south = NJ, DE, MD, VA, NC). The spatial stock assessment calculates a north and south exploitable biomass value, which can then be turned in to a proportion. The benefit of this approach is this number is calculated through a synthesis of many biological parameters and represents the best available science for the population. The drawback is that the assessment is updated periodically (not every year), therefore the information will not be evaluated every year, but would depend on the assessment cycle. Additionally, if the spatial stock assessment were to fail at some point in the future, this would impact the ability to do the dynamic allocation calculations. The current estimated allocation from the 2019 update assessment would be 5,272 MT (2018 exploitable biomass) in the south, 16,924 MT (2018 exploitable biomass) in the north,

equating to 24% of the exploitable biomass in the south and 76% of the exploitable biomass in the north (NEFSC 2019). It is important to note that these are the unadjusted exploitable biomass amounts from the assessment. Since data are readily available for this option, an example calculation and projection has been developed below. The process set forth below addresses total biomass, but it could be modified (and presented as a sub-alternative) to address exploitable biomass.

As an alternative, values for stock distribution can be obtained and calculated using scientific surveys, with results apportioned into regions. Since surveys are undertaken annually, the values for stock distribution, by region, can be recalculated and updated annually, biannually, or upon whatever timeframe is deemed most appropriate, affording an opportunity to regularly adjust allocations in sync with shifts in stock distribution. Such shifts may, or may not, follow consistent trends. Accordingly, the technique affords a dynamic approach, consistent with actual changes in stock distribution. Drawing upon the TMGC approach, a swept area biomass, considered a relative index of abundance, can be computed in each stratum, then summed to derive the biomass index for each region. The biomass index estimate derived from each survey would represent a synoptic snapshot of stock distribution at a specific time during a year. Combining the results of multiple surveys requires an understanding of seasonal movement patterns and how much of the biological year each survey represents. For this reason, it is proposed to use the National Marine Fisheries Service (NMFS) Trawl Survey in combination with the North East Area Monitoring and Assessment Program (NEAMAP) Survey. These are both well-established surveys, currently used in the stock assessment, and are synoptic, covering both offshore and inshore strata. As proposed in this alternative, the existing survey strata could be used to partition the survey information into two stock regions: (1) ME - NY, and (2) NJ - NC. The strata do not align perfectly with these two spatial configurations, but they are relatively close (Figures 1 and 2). Table 1 provides an example of how the strata could be applied for each region.

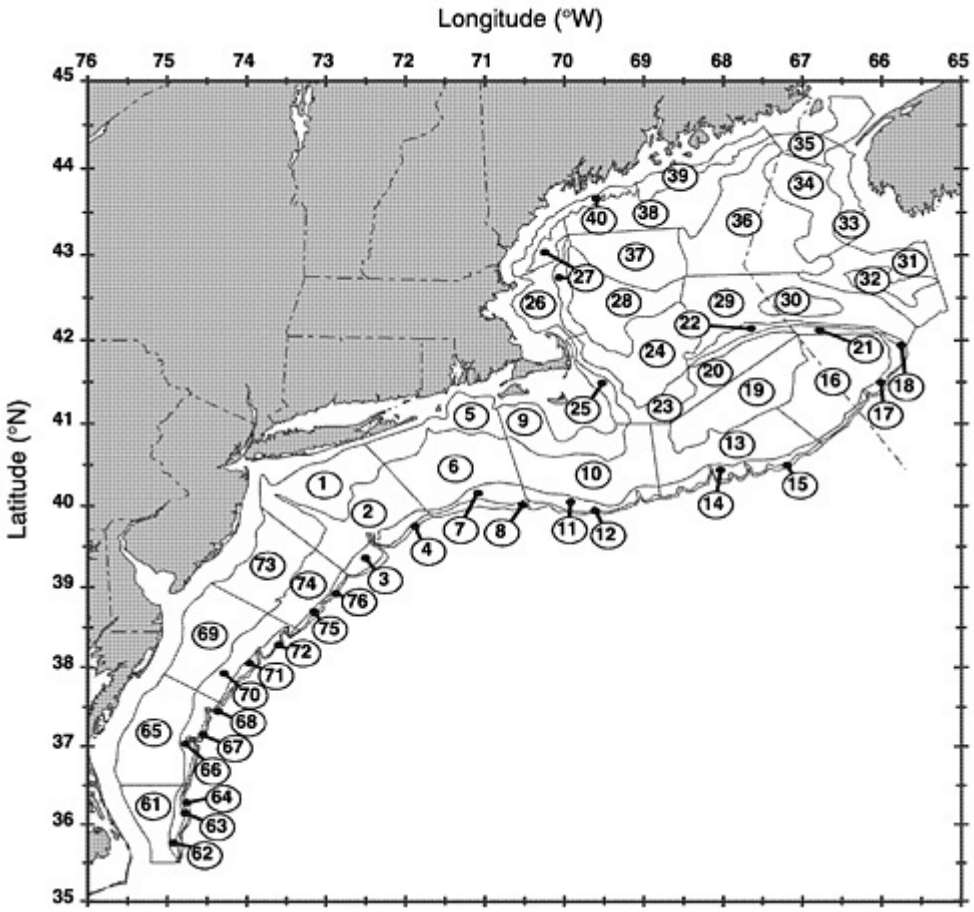


Figure 1: Map of National Marine Fisheries Service trawl survey strata.

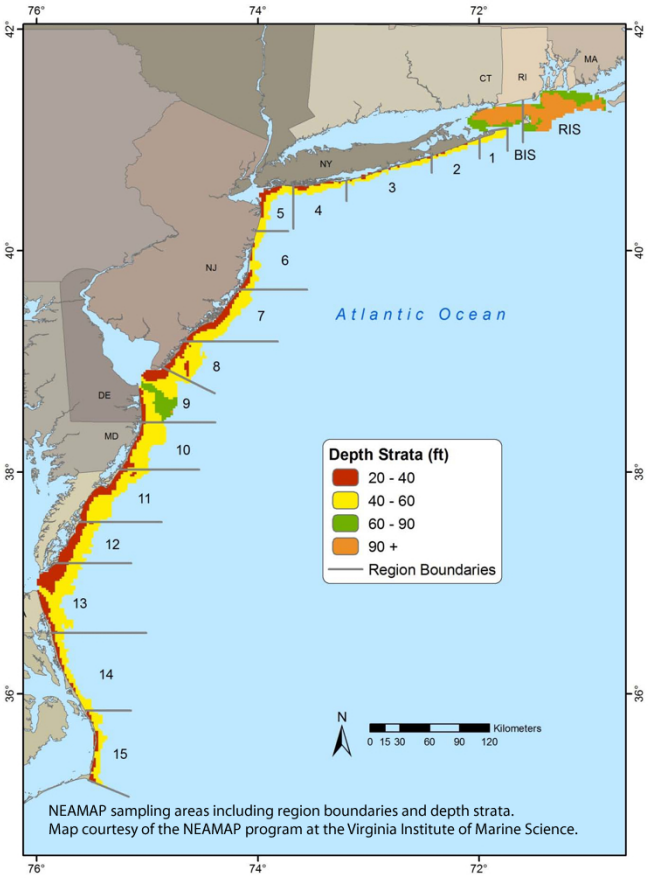


Figure 2: Map of North East Area Monitoring and Assessment Program trawl survey strata.

Table 1 - Strata or Region assigned to each region for stock distribution calculations.

Regions	NMFS Strata	NEAMAP Regions
Region 1: ME - NY	1 - 40	1 - 5, BIS, RIS
Region 2: NJ - NC	3, 61 - 76	6 - 15

*Note: This is a first cut, these should be finalized through discussions between the TC and survey staff.

This approach could be refined over time by developing area polygons that better align with the boards desired regional configuration. Then, using the spatial information from the surveys, the survey information could be partitioned into the polygons.

Additionally, there may be ways to use state survey information within the analysis – either directly by averaging those surveys into the swept area biomass calculations, or indirectly such as using them to verify or corroborate the information from the surveys used in the calculations. Such use of state survey information could be developed and integrated into the process over time via analysis and recommendations from the monitoring and technical committees.

A robust, locally weighted regression algorithm (Cleveland 1979), referred to as LOESS, could then be used to mitigate excessive variations in sampling results. Per the TMGC approach, a 30% smoothing parameter could be used. That level of smoothing was chosen because it reflected current trends, was responsive to changes, and provided the most appropriate results for contemporary resource sharing. The recommended

default of two robustness iterations also was adopted (Cleveland 1979) in the TMGC approach and could also be adopted here. Stock distributions could then be updated annually by incorporating data from the latest survey year available and dropping data from the earliest survey used in the previous year so that a consistent window of data is maintained. After the surveys are combined, the LOESS smoother would be applied to the survey data. The fixed initial allocation (90% weighting in year 1) and the most recent stock distributions as calculated by the surveys (10% weighting in year 1) can then be applied to the sharing formula to determine regional allocation shares for the upcoming fishing year.

The benefit of this approach is that it could be performed annually with the most contemporary data. The drawback is that survey data are prone to variability. The LOESS smoothing and the adjustment cap that is set forth below are designed to account for some of this variability to keep it from causing unreasonable changes in a single year.

As a final nuance to the survey alternative, a sophisticated modeling approach could be developed to achieve the same information as above. Techniques like the use of the VAST model (Thorson 2015) have been shown to be appropriate for this type of an analysis and could be adopted, in lieu of the swept area biomass technique, as a method for calculating stock distribution by region.

For this proposal, the assessment technique will be used as there is actual data that can be used to examine an example. With additional work, a retrospective analysis using trawl survey information could be developed.

Adjustment cap

In addition to the formula for calculating the regional allocations and then translating into the state specific allocations, additional measures could be added by way of an adjustment cap. Such measures would enable various checks and balances to be incorporated into the process to guard against unintended consequences.

One such algorithm, proposed here, is to guard against any abrupt change occurring to any regional allocation in any given year (or other time frame), and thus minimize short-term impacts, by capping the amount of any annual or bi-annual change to the regional shares anywhere between 3 - 10%. This can be shown as:

$$\%RegionalShare = \begin{cases} 3to10\%, & \text{if } \Delta AnnualChange > 3to10\% \\ \%RegionalShare, & \text{if } \Delta AnnualChange \leq 3to10\% \end{cases} \quad (1)$$

The effect would be to ensure that any changes to allocations occur incrementally, even in a case of large shifts in stock distribution in any given year or period. This algorithm serves as an additional layer of protection against large changes, in addition to the other factors outlined above that are also built in to contend with uncertainty and variability.

Flexibility

A key attribute of this proposed new approach for modifying the allocation system is its flexibility. All of the decision points set forth in this proposal, once agreed to, can be adjusted as the process moves forward. Such adjustments, emanating from routine reviews by the Board and Council, can address any of the range of parameters initially set by the Board and Council. The Board and Council could define how changes to the system would be considered and enacted moving forward - e.g., via Addenda and Frameworks, the specifications process, or some other mechanism. The ranges of parameters/issues that readily lend themselves to such adjustment include:

- The α and β parameters can be adjusted to change the way the utilization and distribution are weighted in the equation;
- The increment of change in the α and β parameters can be adjusted to increase or decrease the transition speed;
- The initial state allocations can be set at status quo, or shifted to accommodate various objectives; and
- The adjustment cap can be adjusted to be more or less protective of incremental changes.

Given such flexibility, the Board and Council could decide to implement a transition program that begins in 2021, with either current, status quo allocations, or some variant thereof, and based on assessment information through 2018 (same information used for the proposed 2019 operational stock assessment update), establish stock distribution values for each of the two regions. Using those parameters, and a weighting of allocations by 90% and stock distribution by 10%, enact new, slightly revised state-specific allocations for 2021. If the Board and Council opted for a transitional program involving 10% annual increments, until the weightings reached 10% utilization from initial allocations and 90% stock distribution, this sharing formula would transition from a 90:10 initial allocation-to-stock distribution weighting in 2021 to a 10:90 weighting by 2029. During every adjustment , the trawl survey information would be updated and factored into the stock distribution values. As such, each regional and associated state-specific adjustment would not necessarily be the same, whether in magnitude or direction.

Alternatively, the Board and Council could opt for a transitional program involving 10% increments every two years, or 5% annual increments, or 5% increments every two years, etc. Those alternatives would significantly slow the transition. Some of these variants are illustrated below as examples.

Example

The following are examples of how the new approach can be applied; it incorporates various proposed or strawman parameters, all of which can be modified upon review and consideration by the Board and Council:

- The assessment information is used to calculate the Stock Distribution values.
- Step 1: Apply the state-specific allocations and stock distribution information to equation 1.
  - Summed state allocations for Region 1 (sum of ME-NY)

```
sum.reg1
```

```
## [1] 0.33
```

  - Summed state allocation for Region 2 (NJ - NC)

```
sum.reg2
```

```
## [1] 0.67
```

- Step 2: Apply the Stock Distribution information to equation 1.
  - Strawman values:

```
dist.reg1 = 0.76
dist.reg2 = 0.24
```

- Step 3: Select the increment of adjustment, which will determine the α and β parameters for equation 1 for year 1:
  - The initial sharing formula is proposed to be based on an annual 10% adjustement resulting in the weighting of historical allocations by 90% and the weighting of stock distribution by 10%. Thus:

```
alpha = 0.9
beta = 0.1
```

- Step 4: Calculate the results, in the form of proportional regional shares, from equation 1:

```
# Region 1 equation and result
Reg1.Share = (alpha*sum.reg1) + (beta*dist.reg1)
Reg1.Share
```

```
## [1] 0.373
```

```
# Region 2 equation and result
Reg2.Share = (alpha*sum.reg2) + (beta*dist.reg2)
Reg2.Share
```

```
## [1] 0.627
```

  - This does not account for any change to the original allocations, see step 6 below.

- Step 5: Determine need to apply the adjustment cap

```
# Algorithm
if (abs(Reg1.Share-sum.reg1) > 0.1 | abs(Reg2.Share-sum.reg2) > 0.1 ) {
  if (Reg1.Share-sum.reg1 > 0) {
    Reg1.Share = (sum.reg1*(0.1))+sum.reg1
    Reg2.Share = (sum.reg2*(-0.1))+sum.reg2

  }
  if (Reg2.Share-sum.reg2 > 0) {
    Reg1.Share = (sum.reg1*(-.1))+sum.reg1
  Reg2.Share = (sum.reg2*(0.1))+sum.reg2

  }

}
```

  - As proposed, the rule would cap any change at 10%. Since none of the resulting shares change by more than 10%, the algorithm would not apply in this case.

- Step 6: Establish the state-specific allocation structure to be pro-rated by the regional shares. This example **does not** apply a λ value to alter the allocations per equation 3.

  - The state-specific allocations could be the current, status quo allocations; or they could be variants, established via equation 3.

Table 2 - Current state by state allocations.

State	Current Allocation
Maine	0.005
New Hampshire	0.005
Massachusetts	0.130
Rhode Island	0.110
Connecticut	0.010
New York	0.070
New Jersey	0.200
Delaware	0.050
Maryland	0.110
Virginia	0.200
North Carolina	0.110

Four hypothetical examples of state-specific allocations under the new program were performed and are presented below (Tables 3, 4, and 5; Figures 3, 4, and 5).

Example 1: The first example represents a configuration resulting in more liberal change in state allocations. The parameters are set as follows: 2 regions (ME - NY; NJ - NC); initial allocation = status quo allocations ; transition from 90:10 to 10:90; 10% per year change in the transition from utilization to distribution; annual adjustments; the transition time to 90% weight on the stock distribution is 9 years; 10% adjustment cap; distribution assumption is based on the exploitable biomass by region from the assessment for the time period of 2004 - 2012; distribution of adjustments to states within a region are based on initial allocations.

Example 2: The second example represents a more conservative configuration, with more limited changes to state allocations. The parameters are set as follows: 2 regions (ME - NY; NJ - NC); initial allocation = status quo allocations; transition from 90:10 to 30:70; 5% per year change in the transition from utilization to distribution; annual adjustments; the transition time to 70% weight on the stock distribution is 12 years; 3% adjustment cap; distribution assumption is based on the exploitable biomass by region from the assessment for the time period of 2004 - 2015; distribution of adjustments to states within a region are based on initial allocations.

Example 3: The final example is intended to showcase a number of additional modifications that could be made to the approach to achieve certain objectives. In discussions amongst the PDT (and previously the Board regarding recreational black sea bass) it has been noted that it may be appropriate to treat New Jersey as an individual region due to its geographic position straddling the division of the Northern and Southern regions adjacent to Hudson Canyon. Additionally, this option increases the allocations for Connecticut and New York due to their allocations being disproportionate to their current resource availability (as defined in Equation 3 above). Lastly, the PDT discussed the option of holding Maine and New Hampshire's current allocations static throughout the transaction. To demonstrate these modifications, the parameters are set as follows: 4 regions (ME and NH remaining as a non-dynamic region with static allocations; MA - NY; NJ as a stand-alone region; and DE - NC); initial allocation = CT and NY base allocations increased by 1% in each of the first three years; transition from 90:10 to 10:90; 10% per year change in the transition from utilization to distribution; annual adjustments; the transition time to 90% weight on the stock distribution is 9 years; 10% adjustment cap; distribution assumption is based on the exploitable biomass by region from the assessment for the time period of 2004 - 2012, and assumes NJ gets 10% of its allocation from the northern region distribution and 10% of its allocation from the southern region distribution; distribution of adjustments to states within a region are based on initial allocations plus the incremental change as noted above.

The allocations presented in these tables would be different if any of the parameters were changed. Additionally, note that these examples are based on a scenario where the approach was implemented in 2004. The example shows how the system would work and the effects to the states over the initial period of adjustment from initial allocation having the highest weight in the equation to stock distribution having the highest weight during a period of time where the exploitable biomass was rapidly changing.

Table 3 - Allocation trajectory for all states under the parameters outlined in example 1 above. The adjustment cap is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

State	2004	2005	2006	2007	2008	2009	2010	2011	2012
Maine	0.005	0.006	0.006	0.007	0.008	0.008	0.009	0.011	0.011
New Hampshire	0.005	0.006	0.006	0.007	0.008	0.008	0.009	0.011	0.011
Massachusetts	0.137	0.147	0.158	0.174	0.195	0.210	0.238	0.275	0.293
Rhode Island	0.116	0.125	0.134	0.147	0.165	0.178	0.201	0.233	0.248
Connecticut	0.011	0.011	0.012	0.013	0.015	0.016	0.018	0.021	0.023
New York	0.074	0.079	0.085	0.094	0.105	0.113	0.128	0.148	0.158
New Jersey	0.195	0.187	0.179	0.167	0.151	0.139	0.119	0.090	0.076
Delaware	0.049	0.047	0.045	0.042	0.038	0.035	0.030	0.023	0.019
Maryland	0.107	0.103	0.098	0.092	0.083	0.077	0.065	0.050	0.042
Virginia	0.195	0.187	0.179	0.167	0.151	0.139	0.119	0.090	0.076
North Carolina	0.107	0.103	0.098	0.092	0.083	0.077	0.065	0.050	0.042

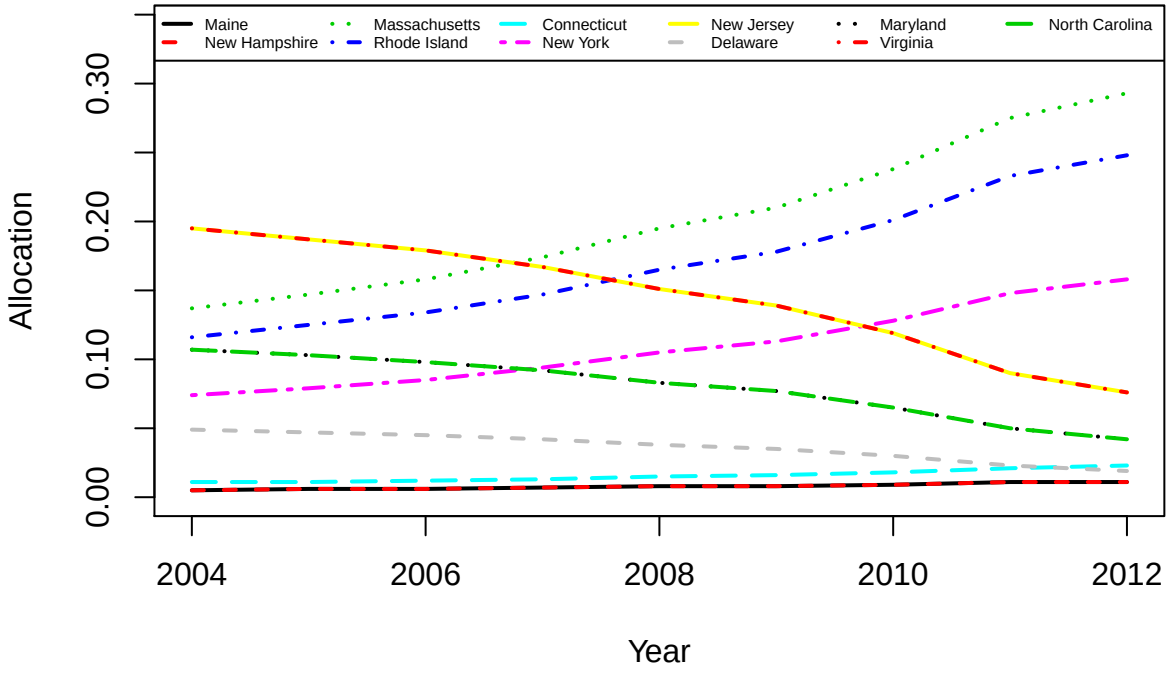


Figure 3: Allocation trajectory for all states under the parameters outlined in example 1 above. The adjustment cap is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

Table 4 - Allocation trajectory for all states under the parameters outlined in example 2 above. The adjustment cap is triggered in each year from 2012 through 2015 in this example. This is a retrospective analysis as if this method were in place beginning in 2004. The adjustment cap is triggered in 2012 - 2015 in this example.

State	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Maine	0.005	0.005	0.006	0.006	0.006	0.007	0.007	0.007	0.007	0.007	0.008	0.008
New Hampshire	0.005	0.005	0.006	0.006	0.006	0.007	0.007	0.007	0.007	0.007	0.008	0.008
Massachusetts	0.134	0.139	0.144	0.152	0.162	0.170	0.176	0.182	0.187	0.193	0.198	0.205
Rhode Island	0.113	0.117	0.122	0.129	0.137	0.144	0.149	0.154	0.159	0.163	0.168	0.173
Connecticut	0.010	0.011	0.011	0.012	0.012	0.013	0.014	0.014	0.014	0.015	0.015	0.016
New York	0.072	0.075	0.078	0.082	0.088	0.092	0.095	0.098	0.101	0.104	0.107	0.110
New Jersey	0.197	0.193	0.189	0.183	0.175	0.170	0.164	0.159	0.154	0.150	0.145	0.141
Delaware	0.049	0.048	0.047	0.046	0.044	0.042	0.041	0.040	0.039	0.037	0.036	0.035
Maryland	0.109	0.106	0.104	0.101	0.096	0.093	0.090	0.087	0.085	0.082	0.080	0.077
Virginia	0.197	0.193	0.189	0.183	0.175	0.170	0.164	0.159	0.154	0.150	0.145	0.141
North Carolina	0.109	0.106	0.104	0.101	0.096	0.093	0.090	0.087	0.085	0.082	0.080	0.077

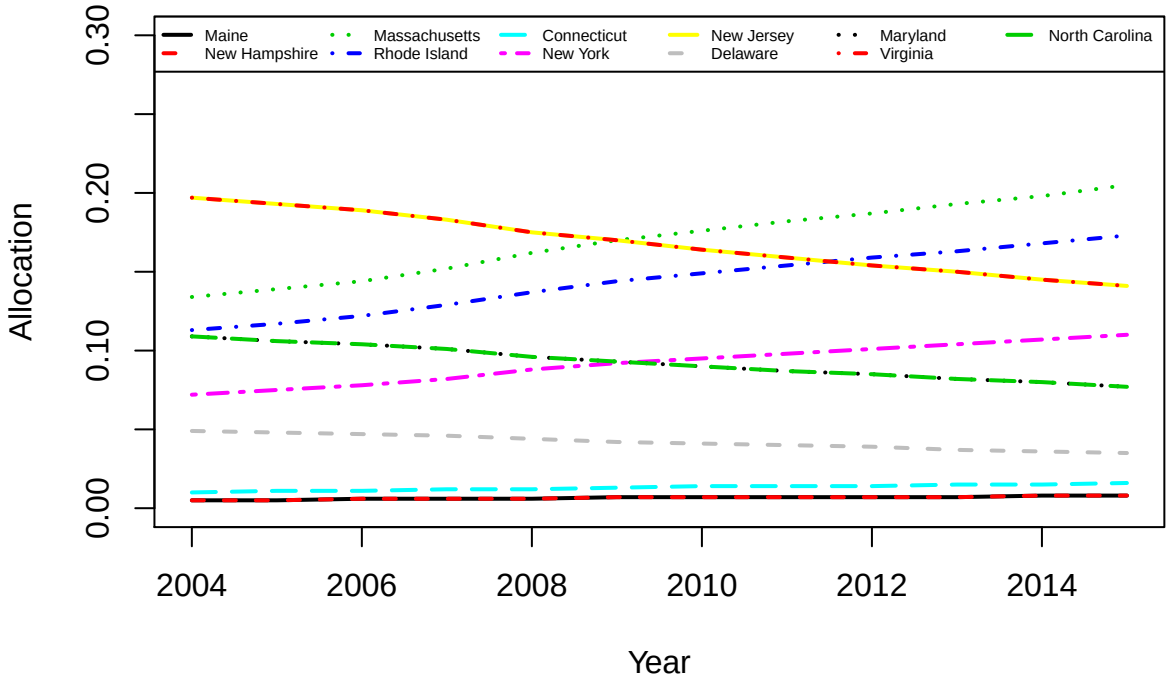


Figure 4: Allocation trajectory for all states under the parameters outlined in example 2 above. The adjustment cap is triggered in each year from 2012 through 2015 in this example. This is a retrospective analysis as if this method were in place beginning in 2004. The adjustment cap is triggered in 2012 - 2015 in this example.

Table 5 - Allocation trajectory for all states under the parameters outlined in example 3 above. The adjustment cap is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

State	2004	2005	2006	2007	2008	2009	2010	2011	2012
Maine	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
New Hampshire	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Massachusetts	0.128	0.125	0.122	0.131	0.143	0.154	0.171	0.190	0.200
Rhode Island	0.108	0.105	0.102	0.109	0.120	0.128	0.143	0.159	0.167
Connecticut	0.020	0.030	0.040	0.043	0.047	0.051	0.056	0.063	0.066
New York	0.081	0.090	0.100	0.108	0.118	0.127	0.141	0.157	0.164
New Jersey	0.194	0.194	0.195	0.197	0.199	0.201	0.210	0.213	0.216
Delaware	0.046	0.043	0.040	0.037	0.033	0.030	0.025	0.019	0.017
Maryland	0.105	0.100	0.098	0.090	0.081	0.073	0.061	0.047	0.041
Virginia	0.193	0.187	0.184	0.170	0.152	0.138	0.115	0.089	0.077
North Carolina	0.105	0.100	0.098	0.090	0.081	0.073	0.061	0.047	0.041

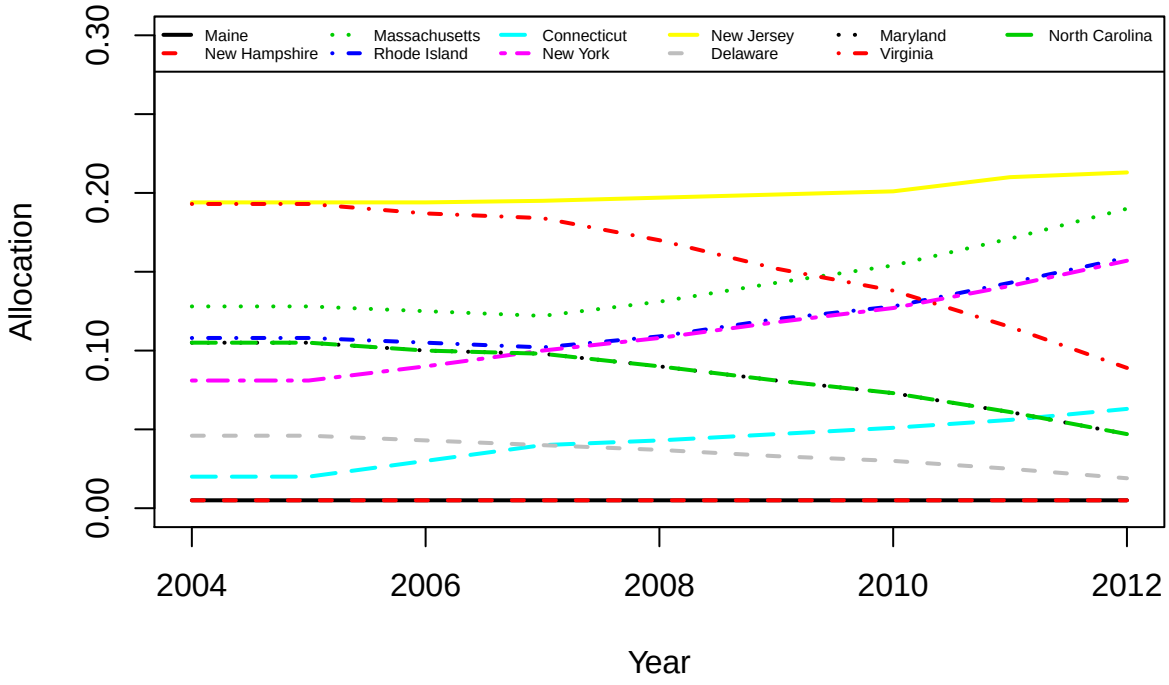


Figure 5: Allocation trajectory for all states under the parameters outlined in example 3 above. The adjustment cap is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

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Appendix 3. Example changes in allocation distribution under various trigger and percentage approaches

Appendix X Examples			
Example	**Option**	**Trigger/Percentage**	**Approach**
1-A	Trigger	3 million	Static trigger with surplus allocated regionally and proportional to states' initial allocations
1-B	Trigger	3 million	1-A, if one year's quota is below the trigger
2	Trigger, Three regions	3 million	Static trigger with surplus allocated regionally and proportional to states' initial allocations with NJ as a third region
3	Trigger	3 million	Static trigger with surplus allocated regionally and equally between states
4-A	Trigger	3 million	Dynamic trigger with surplus allocated regionally and proportional to states' base allocations
4-B	Trigger	3 million	4-A, if one year's quota is below the trigger
5	Trigger	3 million	Dynamic trigger with surplus allocated regionally and equally between states
6	Trigger	4.5 million	Dynamic trigger with surplus allocated regionally and proportional to states' base allocations
7-A	Trigger with Increase to CT and NY First	3 million	Static trigger with surplus allocated regionally and proportional to states' initial allocations
7-B	Trigger with Increase to CT and NY First	3 million	7-A, if one year's quota is below the trigger
8	Percentage	25%	Surplus allocated equally between states
9	Percentage	25%	Surplus allocated regionally and equally between the states
10	Percentage	25%	Surplus allocated regionally and proportional to states' initial allocations
11	Percentage	75%	Surplus allocated regionally and equally between the states
12	Percentage	75%	Surplus allocated regionally and proportional to states' initial allocations

EXAMPLE 1-A

Trigger Value: 3 million pounds

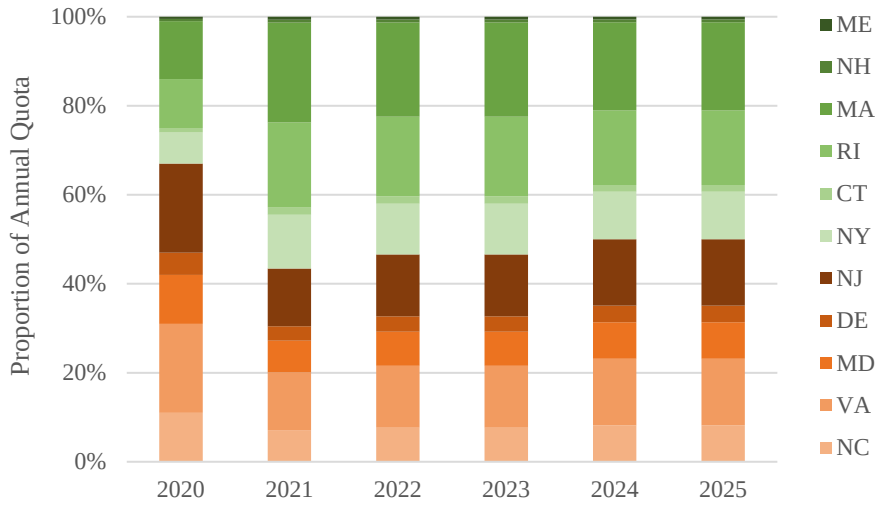
Base allocations: Static

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to initial allocations.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	22.5%	21.2%	21.2%	19.8%	19.8%
RI	11.0%	19.0%	17.9%	17.9%	16.8%	16.8%
CT	1.0%	1.7%	1.6%	1.6%	1.5%	1.5%
NY	7.0%	12.1%	11.4%	11.4%	10.7%	10.7%
NJ	20.0%	13.0%	13.9%	13.9%	14.9%	14.9%
DE	5.0%	3.2%	3.5%	3.5%	3.7%	3.7%
MD	11.0%	7.1%	7.7%	7.7%	8.2%	8.2%
VA	20.0%	13.0%	13.9%	13.9%	14.9%	14.9%
NC	11.0%	7.1%	7.7%	7.7%	8.2%	8.2%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	53.4%	53.4%	50.0%	50.0%
South	67.0%	43.4%	46.6%	46.6%	50.0%	50.0%



EXAMPLE 1-B *(1-A approach with one year's quota under the trigger)*

Trigger Value: 3 million pounds

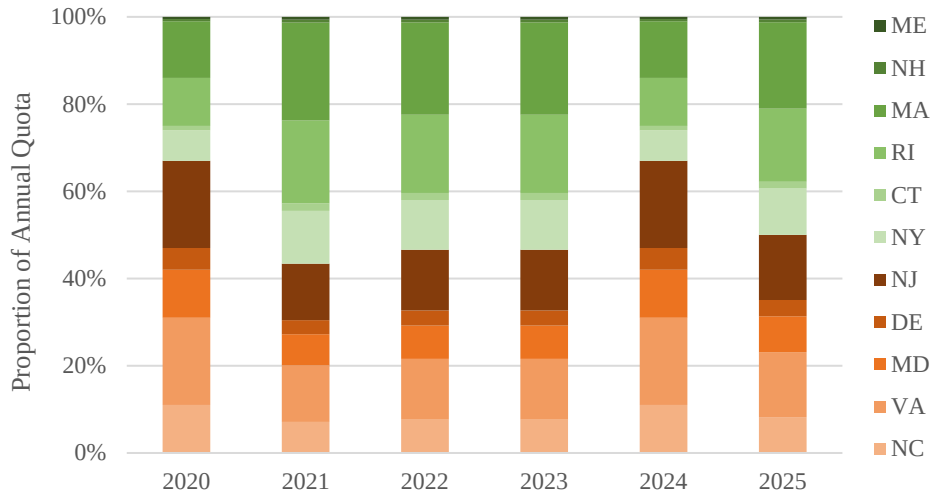
Base allocations: Static

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to initial allocations.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	**2,800,000**	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.6%	0.6%	0.5%	0.6%
NH	0.5%	0.7%	0.6%	0.6%	0.5%	0.6%
MA	13.0%	22.5%	21.2%	21.2%	13.0%	19.8%
RI	11.0%	19.0%	17.9%	17.9%	11.0%	16.8%
CT	1.0%	1.7%	1.6%	1.6%	1.0%	1.5%
NY	7.0%	12.1%	11.4%	11.4%	7.0%	10.7%
NJ	20.0%	13.0%	13.9%	13.9%	20.0%	14.9%
DE	5.0%	3.2%	3.5%	3.5%	5.0%	3.7%
MD	11.0%	7.1%	7.7%	7.7%	11.0%	8.2%
VA	20.0%	13.0%	13.9%	13.9%	20.0%	14.9%
NC	11.0%	7.1%	7.7%	7.7%	11.0%	8.2%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	53.4%	53.4%	33.0%	50.0%
South	67.0%	43.4%	46.6%	46.6%	67.0%	50.0%



EXAMPLE 2

Trigger Value: 3 million pounds

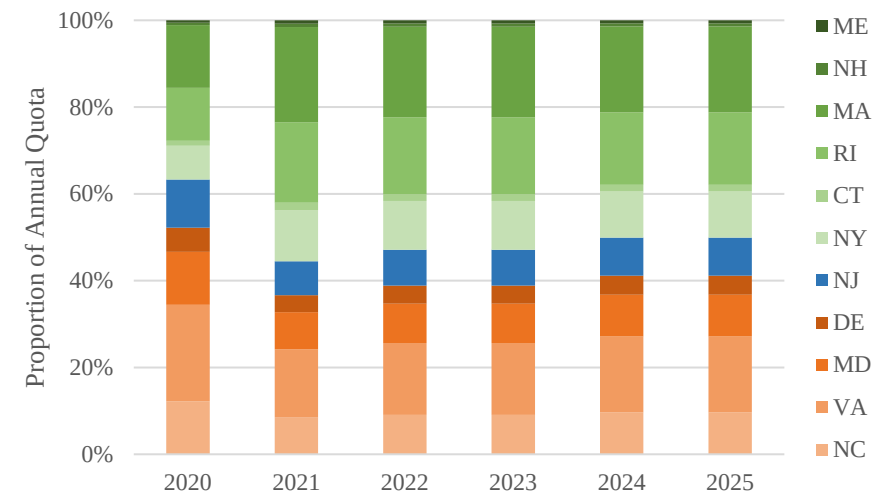
Base allocations: Static

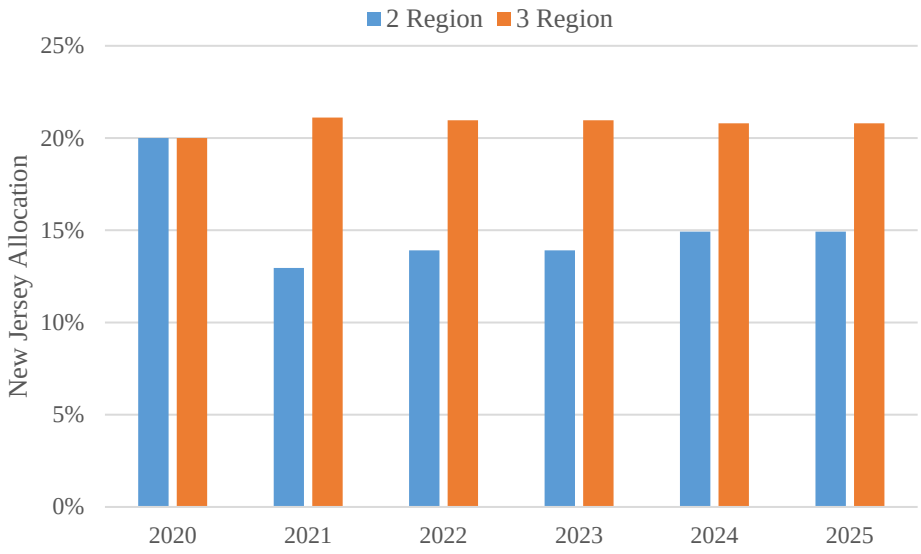
Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to initial allocations.

Regional configuration: ME-NY, NJ, DE-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	18.8%	18.0%	18.0%	17.2%	17.2%
RI	11.0%	15.9%	15.2%	15.2%	14.5%	14.5%
CT	1.0%	1.4%	1.4%	1.4%	1.3%	1.3%
NY	7.0%	10.1%	9.7%	9.7%	9.2%	9.2%
NJ	20.0%	21.1%	21.0%	21.0%	20.8%	20.8%
DE	5.0%	3.3%	3.6%	3.6%	3.8%	3.8%
MD	11.0%	7.3%	7.8%	7.8%	8.4%	8.4%
VA	20.0%	13.3%	14.2%	14.2%	15.2%	15.2%
NC	11.0%	7.3%	7.8%	7.8%	8.4%	8.4%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	47.5%	45.6%	45.6%	43.5%	43.5%
NJ	20.0%	21.1%	21.0%	21.0%	20.8%	20.8%
South	47.0%	31.4%	33.5%	33.5%	35.7%	35.7%





The above Figure provides a comparison of NJ's percent allocation under the 2 region configuration provided in Example 1 (blue bars) and the 3 region configuration provided in Example 2 (orange bars). All other variables are held constant between Example 1-A and Example 2.

EXAMPLE 3

Trigger Value: 3 million pounds

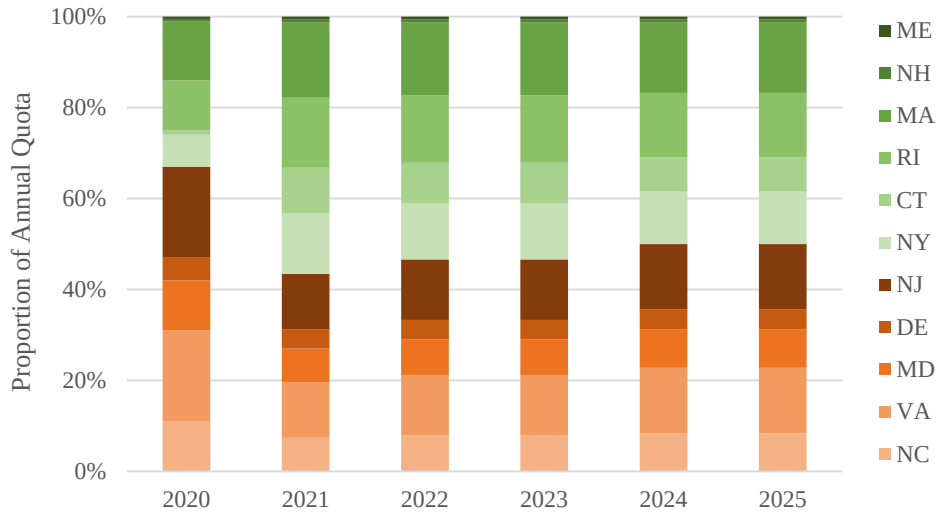
Base allocations: Static

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated equally to each state.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	16.5%	16.0%	16.0%	15.5%	15.5%
RI	11.0%	15.4%	14.8%	14.8%	14.2%	14.2%
CT	1.0%	10.1%	8.8%	8.8%	7.5%	7.5%
NY	7.0%	13.3%	12.4%	12.4%	11.5%	11.5%
NJ	20.0%	12.2%	13.3%	13.3%	14.4%	14.4%
DE	5.0%	4.2%	4.3%	4.3%	4.4%	4.4%
MD	11.0%	7.4%	7.9%	7.9%	8.4%	8.4%
VA	20.0%	12.2%	13.3%	13.3%	14.4%	14.4%
NC	11.0%	7.4%	7.9%	7.9%	8.4%	8.4%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	53.4%	53.4%	50.0%	50.0%
South	67.0%	43.4%	46.6%	46.6%	50.0%	50.0%



EXAMPLE 4-A

Trigger Value: 3 million pounds

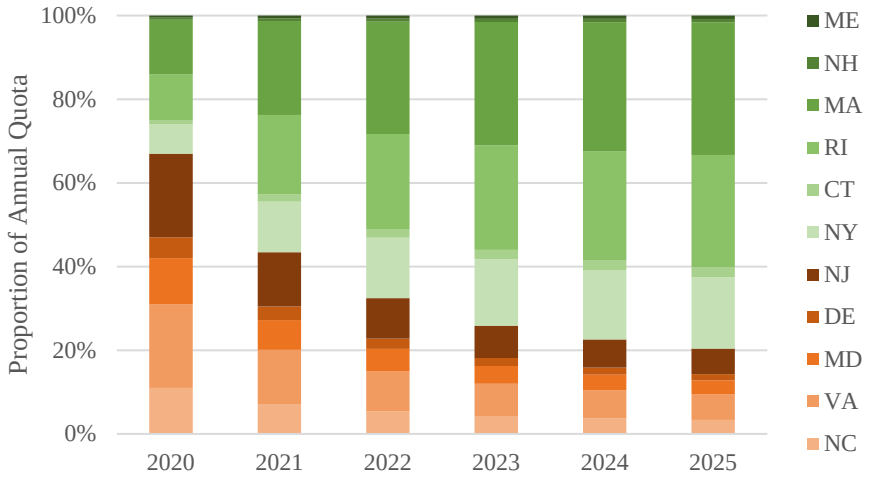
Base allocations: Dynamic

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to base allocations.

Regional configuration: ME-NY and NJ-NC.

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
NH	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
MA	13.0%	22.5%	26.8%	29.5%	30.8%	31.7%
RI	11.0%	19.0%	22.7%	24.9%	26.1%	26.8%
CT	1.0%	1.7%	2.1%	2.3%	2.4%	2.4%
NY	7.0%	12.1%	14.5%	15.9%	16.6%	17.1%
NJ	20.0%	13.0%	9.7%	7.7%	6.7%	6.1%
DE	5.0%	3.2%	2.4%	1.9%	1.7%	1.5%
MD	11.0%	7.1%	5.3%	4.2%	3.7%	3.3%
VA	20.0%	13.0%	9.7%	7.7%	6.7%	6.1%
NC	11.0%	7.1%	5.3%	4.2%	3.7%	3.3%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	67.5%	74.1%	77.4%	79.6%
South	67.0%	43.4%	32.5%	25.9%	22.6%	20.4%



EXAMPLE 4-B *(4-A approach with one year's quota under the trigger)*

Trigger Value: 3 million pounds

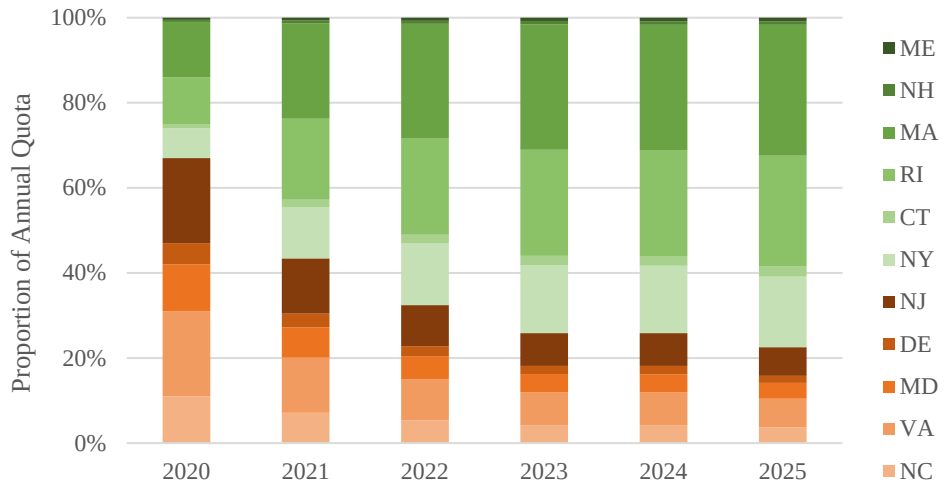
Base allocations: Dynamic

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to base allocations.

Regional configuration: ME-NY and NJ-NC.

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	**2,800,000**	4,500,000

State	Annual % of Quota					
	2020	**2021**	**2022**	**2023**	**2024**	**2025**
ME	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
NH	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
MA	13.0%	22.5%	26.8%	29.5%	29.5%	30.8%
RI	11.0%	19.0%	22.7%	24.9%	24.9%	26.0%
CT	1.0%	1.7%	2.1%	2.3%	2.3%	2.4%
NY	7.0%	12.1%	14.5%	15.9%	15.9%	16.6%
NJ	20.0%	13.0%	9.7%	7.7%	7.7%	6.7%
DE	5.0%	3.2%	2.4%	1.9%	1.9%	1.7%
MD	11.0%	7.1%	5.3%	4.2%	4.2%	3.7%
VA	20.0%	13.0%	9.7%	7.7%	7.7%	6.7%
NC	11.0%	7.1%	5.3%	4.2%	4.2%	3.7%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	67.5%	74.1%	74.2%	77.4%
South	67.0%	43.4%	32.5%	25.9%	25.8%	22.6%



EXAMPLE 5

Trigger Value: 3 million pounds

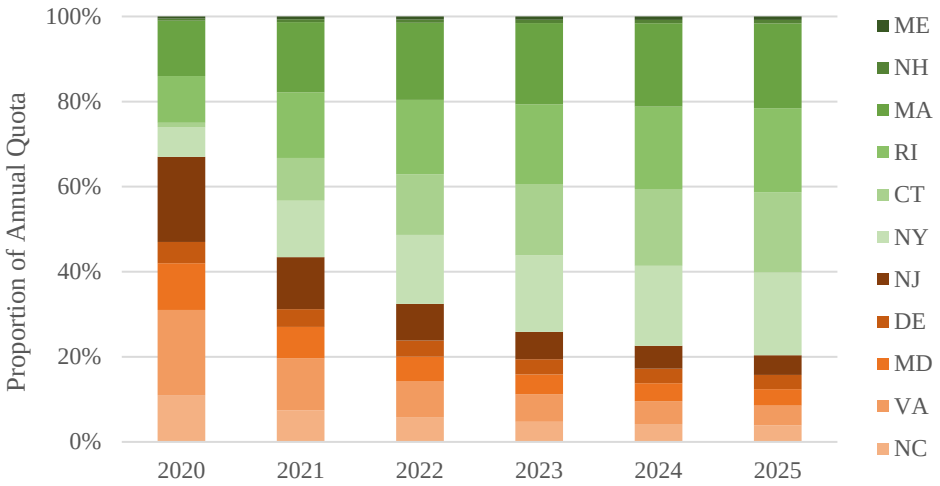
Base allocations: Dynamic

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated equally to each state.

Regional configuration: ME-NY and NJ-NC.

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
NH	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
MA	13.0%	16.5%	18.1%	19.1%	19.6%	19.9%
RI	11.0%	15.4%	17.5%	18.7%	19.3%	19.8%
CT	1.0%	10.1%	14.3%	16.8%	18.1%	18.9%
NY	7.0%	13.3%	16.2%	18.0%	18.8%	19.4%
NJ	20.0%	12.2%	8.6%	6.5%	5.4%	4.6%
DE	5.0%	4.2%	3.8%	3.5%	3.4%	3.4%
MD	11.0%	7.4%	5.7%	4.7%	4.2%	3.9%
VA	20.0%	12.2%	8.6%	6.5%	5.4%	4.6%
NC	11.0%	7.4%	5.7%	4.7%	4.2%	3.9%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	67.5%	74.1%	77.4%	79.6%
South	67.0%	43.4%	32.5%	25.9%	22.6%	20.4%



EXAMPLE 6

Trigger Value: 4.5 million pounds

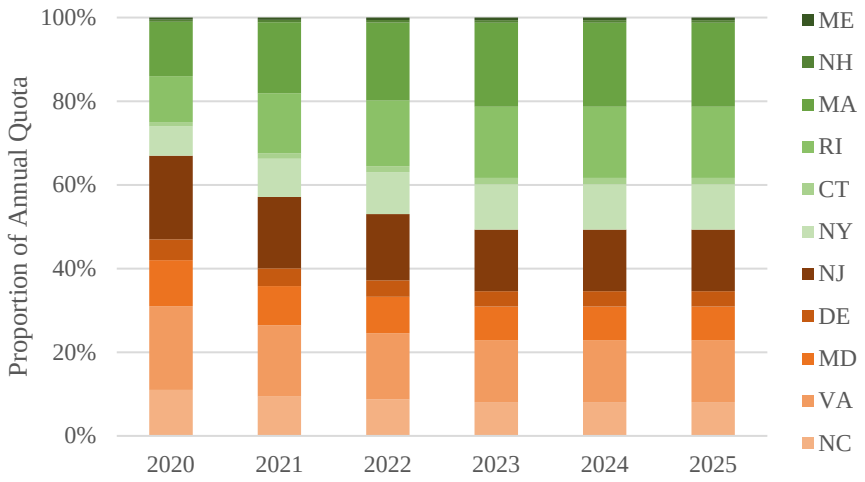
Base allocations: Dynamic

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to base allocations.

Regional configuration: ME-NY and NJ-NC.

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	17.0%	18.6%	20.1%	20.1%	20.1%
RI	11.0%	14.3%	15.7%	17.0%	17.0%	17.0%
CT	1.0%	1.3%	1.4%	1.5%	1.5%	1.5%
NY	7.0%	9.1%	10.0%	10.8%	10.8%	10.8%
NJ	20.0%	17.1%	15.8%	14.7%	14.7%	14.7%
DE	5.0%	4.3%	4.0%	3.7%	3.7%	3.7%
MD	11.0%	9.4%	8.7%	8.1%	8.1%	8.1%
VA	20.0%	17.1%	15.8%	14.7%	14.7%	14.7%
NC	11.0%	9.4%	8.7%	8.1%	8.1%	8.1%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	42.9%	47.0%	50.7%	50.7%	50.7%
South	67.0%	57.1%	53.0%	49.3%	49.3%	49.3%



EXAMPLE 7-A (Increase to Connecticut and New York Quotas First)

Trigger Value: 3 million pounds

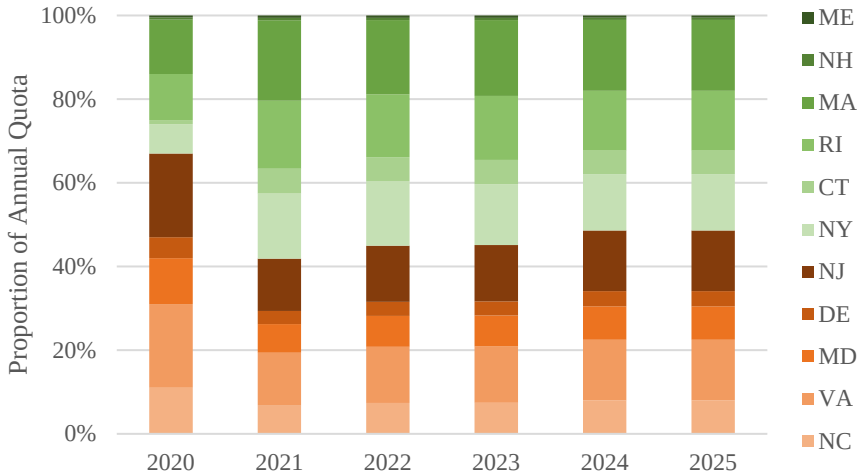
Base allocations: Static

Distribution of surplus quota: Surplus quota first allocated to increase Connecticut to 5%, then to increase New York to 9%. Further surplus is allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to historic allocations.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.6%	0.5%	0.6%	0.5%	0.5%
NH	0.5%	0.6%	0.5%	0.6%	0.5%	0.5%
MA	13.0%	19.2%	17.8%	18.1%	16.9%	16.9%
RI	11.0%	16.3%	15.0%	15.3%	14.3%	14.3%
CT	1.0%	5.9%	5.8%	5.8%	5.6%	5.6%
NY	7.0%	15.6%	15.4%	14.5%	13.4%	13.4%
NJ	20.0%	12.5%	13.4%	13.5%	14.5%	14.5%
DE	5.0%	3.1%	3.4%	3.4%	3.6%	3.6%
MD	11.0%	6.9%	7.4%	7.4%	8.0%	8.0%
VA	20.0%	12.5%	13.4%	13.5%	14.5%	14.5%
NC	11.0%	6.9%	7.4%	7.4%	8.0%	8.0%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	58.1%	55.0%	54.9%	51.4%	51.4%
South	67.0%	41.9%	45.0%	45.1%	48.6%	48.6%



EXAMPLE 7-B *(7-A approach with one year's quota under the trigger)*

Trigger Value: 3 million pounds

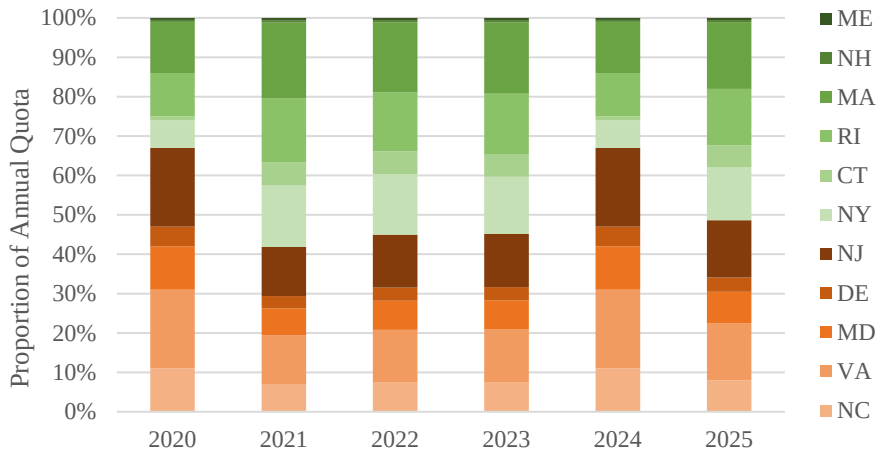
Base allocations: Static

Distribution of surplus quota: Surplus quota first allocated to increase Connecticut to 5%, then to increase New York to 9%. Further surplus is allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to historic allocations.

Regional configuration: ME-NY and NJ-NC

Year	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	**2,800,000**	4,500,000

State	**Annual % of Quota**					
	2020	**2021**	**2022**	**2023**	**2024**	**2025**
ME	0.5%	0.6%	0.5%	0.6%	0.5%	0.5%
NH	0.5%	0.6%	0.5%	0.6%	0.5%	0.5%
MA	13.0%	19.2%	17.8%	18.1%	13.0%	16.9%
RI	11.0%	16.3%	15.0%	15.3%	11.0%	14.3%
CT	1.0%	5.9%	5.8%	5.8%	1.0%	5.6%
NY	7.0%	15.6%	15.4%	14.5%	7.0%	13.4%
NJ	20.0%	12.5%	13.4%	13.5%	20.0%	14.5%
DE	5.0%	3.1%	3.4%	3.4%	5.0%	3.6%
MD	11.0%	6.9%	7.4%	7.4%	11.0%	8.0%
VA	20.0%	12.5%	13.4%	13.5%	20.0%	14.5%
NC	11.0%	6.9%	7.4%	7.4%	11.0%	8.0%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	58.1%	55.0%	54.9%	33.0%	51.4%
South	67.0%	41.9%	45.0%	45.1%	67.0%	48.6%



EXAMPLE 8

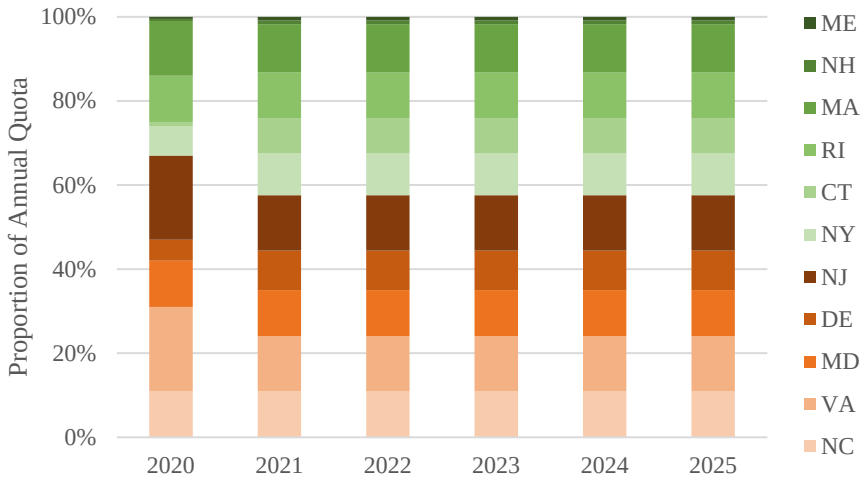
Base percentage: 25%

Distribution of surplus quota: Surplus quota allocated equally to each state from Massachusetts to North Carolina.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.9%	0.9%	0.9%	0.9%	0.9%
NH	0.5%	0.9%	0.9%	0.9%	0.9%	0.9%
MA	13.0%	11.4%	11.4%	11.4%	11.4%	11.4%
RI	11.0%	10.9%	10.9%	10.9%	10.9%	10.9%
CT	1.0%	8.4%	8.4%	8.4%	8.4%	8.4%
NY	7.0%	9.9%	9.9%	9.9%	9.9%	9.9%
NJ	20.0%	13.2%	13.2%	13.2%	13.2%	13.2%
DE	5.0%	9.4%	9.4%	9.4%	9.4%	9.4%
MD	11.0%	10.9%	10.9%	10.9%	10.9%	10.9%
VA	20.0%	13.2%	13.2%	13.2%	13.2%	13.2%
NC	11.0%	10.9%	10.9%	10.9%	10.9%	10.9%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	42.4%	42.4%	42.4%	42.4%	42.4%
South	67.0%	57.6%	57.6%	57.6%	57.6%	57.6%



EXAMPLE 9

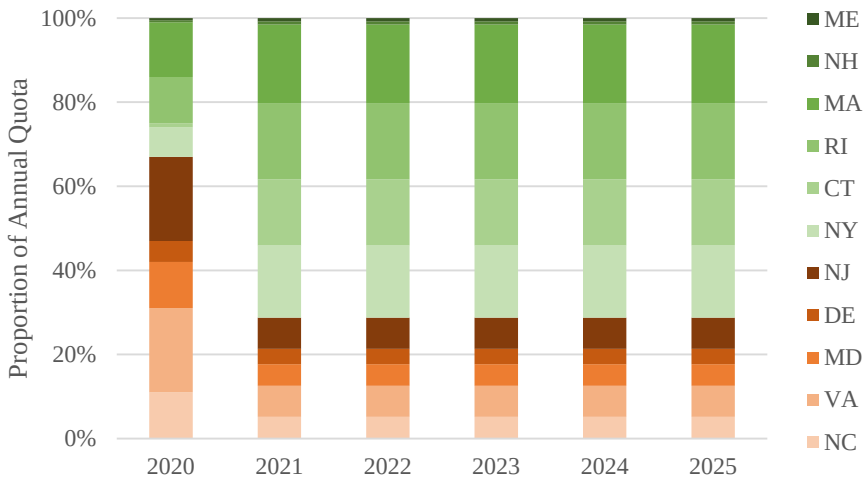
Base percentage: 25%

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated equally to each state.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.8%	0.8%	0.8%	0.8%	0.8%
NH	0.5%	0.8%	0.8%	0.8%	0.8%	0.8%
MA	13.0%	18.7%	18.7%	18.7%	18.7%	18.7%
RI	11.0%	18.2%	18.2%	18.2%	18.2%	18.2%
CT	1.0%	15.7%	15.7%	15.7%	15.7%	15.7%
NY	7.0%	17.2%	17.2%	17.2%	17.2%	17.2%
NJ	20.0%	7.4%	7.4%	7.4%	7.4%	7.4%
DE	5.0%	3.7%	3.7%	3.7%	3.7%	3.7%
MD	11.0%	5.2%	5.2%	5.2%	5.2%	5.2%
VA	20.0%	7.4%	7.4%	7.4%	7.4%	7.4%
NC	11.0%	5.2%	5.2%	5.2%	5.2%	5.2%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	71.3%	71.3%	71.3%	71.3%	71.3%
South	67.0%	28.8%	28.8%	28.8%	28.8%	28.8%



EXAMPLE 10

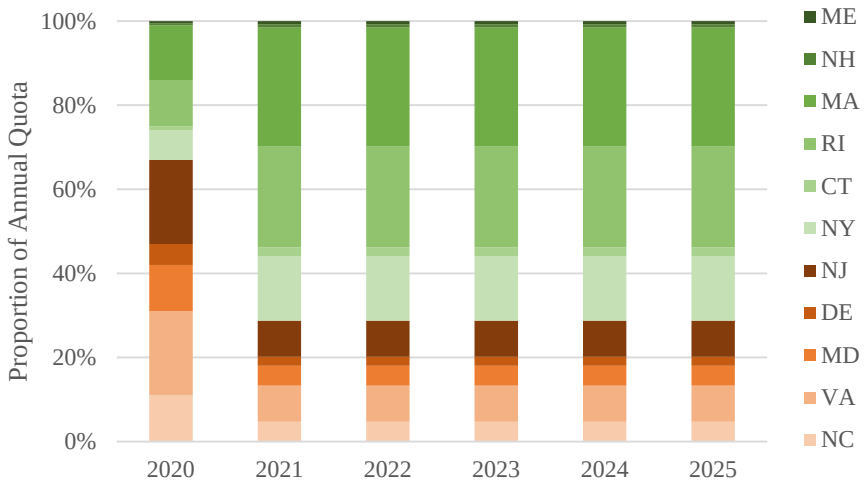
Base percentage: 25%

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated according to initial proportions.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.8%	0.8%	0.8%	0.8%	0.8%
NH	0.5%	0.8%	0.8%	0.8%	0.8%	0.8%
MA	13.0%	28.3%	28.3%	28.3%	28.3%	28.3%
RI	11.0%	24.0%	24.0%	24.0%	24.0%	24.0%
CT	1.0%	2.2%	2.2%	2.2%	2.2%	2.2%
NY	7.0%	15.3%	15.3%	15.3%	15.3%	15.3%
NJ	20.0%	8.6%	8.6%	8.6%	8.6%	8.6%
DE	5.0%	2.1%	2.1%	2.1%	2.1%	2.1%
MD	11.0%	4.7%	4.7%	4.7%	4.7%	4.7%
VA	20.0%	8.6%	8.6%	8.6%	8.6%	8.6%
NC	11.0%	4.7%	4.7%	4.7%	4.7%	4.7%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	71.3%	71.3%	71.3%	71.3%	71.3%
South	67.0%	28.8%	28.8%	28.8%	28.8%	28.8%



EXAMPLE 11

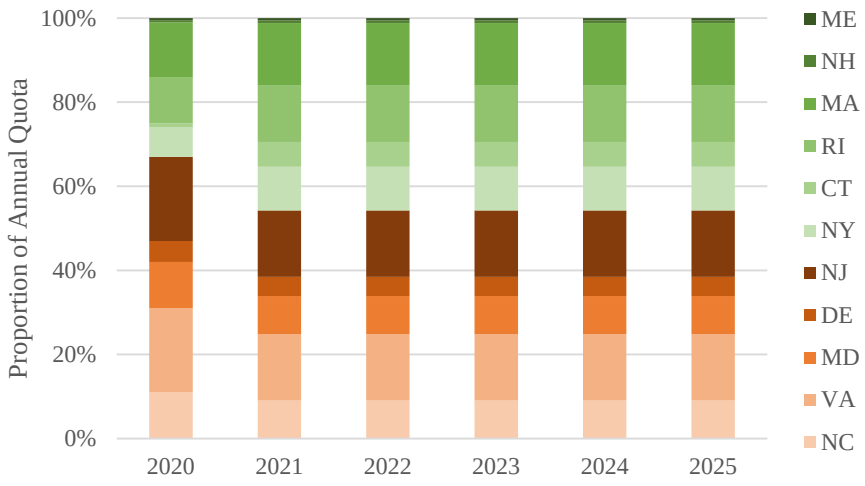
Base percentage: 75%

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated equally to each state.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	14.9%	14.9%	14.9%	14.9%	14.9%
RI	11.0%	13.4%	13.4%	13.4%	13.4%	13.4%
CT	1.0%	5.9%	5.9%	5.9%	5.9%	5.9%
NY	7.0%	10.4%	10.4%	10.4%	10.4%	10.4%
NJ	20.0%	15.8%	15.8%	15.8%	15.8%	15.8%
DE	5.0%	4.6%	4.6%	4.6%	4.6%	4.6%
MD	11.0%	9.1%	9.1%	9.1%	9.1%	9.1%
VA	20.0%	15.8%	15.8%	15.8%	15.8%	15.8%
NC	11.0%	9.1%	9.1%	9.1%	9.1%	9.1%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	45.8%	45.8%	45.8%	45.8%	45.8%
South	67.0%	54.3%	54.3%	54.3%	54.3%	54.3%



EXAMPLE 12

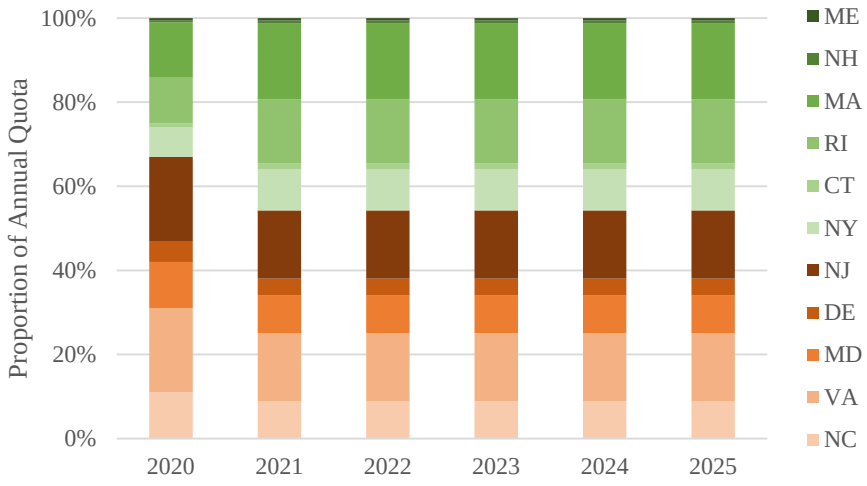
Base percentage: 75%

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated according to initial proportions.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	18.1%	18.1%	18.1%	18.1%	18.1%
RI	11.0%	15.3%	15.3%	15.3%	15.3%	15.3%
CT	1.0%	1.4%	1.4%	1.4%	1.4%	1.4%
NY	7.0%	9.8%	9.8%	9.8%	9.8%	9.8%
NJ	20.0%	16.2%	16.2%	16.2%	16.2%	16.2%
DE	5.0%	4.0%	4.0%	4.0%	4.0%	4.0%
MD	11.0%	8.9%	8.9%	8.9%	8.9%	8.9%
VA	20.0%	16.2%	16.2%	16.2%	16.2%	16.2%
NC	11.0%	8.9%	8.9%	8.9%	8.9%	8.9%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	45.8%	45.8%	45.8%	45.8%	45.8%
South	67.0%	54.3%	54.3%	54.3%	54.3%	54.3%



Recreational Management Reform Initiative
Steering Committee Meeting Summary

July 14, 2020

Steering Committee Attendees (in alphabetical order): Julia Beaty (MAFMC staff), Joe Cimino (MAFMC Summer Flounder, Scup, and Black Sea Bass Committee Vice Chair), Tony DiLernia (MAFMC Summer Flounder, Scup, and Black Sea Bass Committee Chair), Toni Kerns (ASMFC staff), Mike Luisi (MAFMC Chair), Adam Nowalsky (ASMFC Summer Flounder, Scup, and Black Sea Bass Board Chair), Mike Ruccio (GARFO staff), Caitlin Starks (ASMFC staff)

Background

The Recreational Management Reform Steering Committee met via teleconference to discuss next steps for the Recreational Management Reform Initiative. More information on this initiative is available at: https://www.mafmc.org/actions/recreational-reform-initiative.

Identifying and Smoothing Outlier MRIP Estimates

The Steering Committee briefly discussed their previous recommendation to develop a standardized process to identify and, if necessary, adjust (or "smooth") outlier estimates from the Marine Recreational Information Program (MRIP).[1] They agreed that it would be appropriate for the Monitoring and Technical Committees to build off their past work and move forward with further developing this approach.

Harvest Control Rule Proposal

The Steering Committee discussed a proposal put forward by six recreational organizations through scoping for the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment (see pages 147-152 of this document for the full proposal). This proposal, referred to as a "harvest control rule," recommended defining recreational "allocation" not as a set percentage of a total catch limit, but as a specific combination of bag/size/season limits preferred by recreational fishermen in each state, which would become more restrictive when estimated biomass declines below the target level. The restrictions would occur in a pre-determined, stepwise manner. The commercial "allocation" would be the commercial quota preferred by the commercial industry when biomass is high and it would be reduced as biomass declines below the target level in proportion with the restrictions on the recreational fishery. This approach is largely conceptual at this stage and is not yet associated with specific proposed measures.

Based on the recommendations of the Fishery Management Action Team (FMAT), the Council and Board agreed not to further consider this proposal through the Commercial/Recreational

[1] See the draft initiative outline developed by the Steering Committee in April 2020 for more information: https://www.mafmc.org/s/2Rec_reform_outline_v6.pdf

Allocation Amendment; however, they expressed a desire to further evaluate certain aspects of it through other avenues. They agreed that the allocation aspects of the proposal are not feasible given current Magnuson-Stevens Act requirements. For example, the Magnuson-Stevens Act requires the use of annual catch limits set in pounds or numbers of fish. Management measures must be expected to prevent those limits from being exceeded. In addition, it is not clear how this approach would ensure that overfishing does not occur or how it would function if a specific fishing mortality target had to be achieved in a rebuilding scenario. For these reasons, it is not possible to define a recreational allocation as a preferred set of management measures independent from an annual catch limit.

The Recreational Reform Steering Committee agreed that the proposal's recommendation for pre-determined recreational management measure "steps" associated with different biomass levels warrants further consideration and could be feasible under current Magnuson-Stevens Act and FMP requirements. A few Steering Committee members asked if the management measure step approach would be desired by stakeholders if separated from the allocation aspects of the original proposal. The group generally agreed that pre-defined management measures at different biomass levels would provide an additional level of predictability to the management process, which would be beneficial to recreational fishery stakeholders.

One Steering Committee member suggested comparing past management measures to harvest as a starting point for determining which measures might be appropriate at each biomass level "step." Other Steering Committee members cautioned that harvest is impacted by many factors in addition to management measures, such as availability and fishing effort. As past experience managing these recreational fisheries has shown, it can be very difficult to predict future harvest under a given set of management measures even when focused only on the upcoming year. The intent of this approach is to provide stability and predictability by pre-determining management measures which could be used beyond just the upcoming year. One Steering Committee member also noted that, in addition to changes in biomass levels, the distribution of the stocks has changed over time, which would pose additional challenges for predicting future harvest based on the past performance of management measures, depending on the time frame of past measures examined. For these reasons, the Steering Committee agreed that any pre-determined measures would be a starting point for consideration and must be regularly re-evaluated.

The Steering Committee agreed that the proposal's suggestion of pre-defined upper and lower bounds for the most liberal and most restrictive measures could be retained; however, like the management measure steps, they would be a starting point for consideration and the Council and Board may have to use measures outside of those bounds in any given year. They agreed that extensive input from the recreational fishing community is needed to help define the preferred upper and lower bounds of management measures. As described by one Steering Committee member, the upper bound would represent the highest desired level of access and any liberalizations beyond that would not be beneficial to or "needed" by the recreational community. On the other hand, as described by this Steering Committee member, the most restrictive set of potential measures would be so restrictive that there may not be a conservation benefit to making them even more restrictive. They would also represent the most extreme restriction which could be tolerated without causing severe negative economic impacts such as widespread loss of businesses (e.g., for-hire vessels and bait and tackle shops). It is important to note that the desired

potential upper and lower bounds have not yet been determined or evaluated. It has not been determined if this concept will be feasible in practice.

All Steering Committee members agreed that further analysis should be done to evaluate the potential management measures which could be used at different biomass levels. This analysis may suggest that it is not appropriate to associate a predicted harvest level in years beyond the upcoming year with a given set of management measures. However, even if this is the case, it would still be beneficial to do the analysis to evaluate our ability (or inability) to predict future harvest.

Other Topics Removed from Commercial/Recreational Allocation Amendment

During their June 2020 joint meeting, the Council and Board passed a motion to "consider initiating an action by the end of 2020 to develop a recreational accountability and accounting joint action."

The Steering Committee briefly discussed recreational accountability and accounting in relation to the Recreational Reform Initiative. They did not discuss these topics in detail as they felt that they are outside the formal mission and charge of this group.

Multiple Steering Committee members recommended that the Council and Board gain a better understanding of private angler reporting efforts in other regions before initiating an action to consider improvements to recreational catch accounting in this region. They agreed that it would be important to understand what has worked well in these other efforts, as well as the challenges and levels of compliance. In addition, the Council and Board have discussed if this topic may be more appropriately considered for all Council and Commission managed recreational species, rather than just a few species.

A few Steering Committee members said past discussions of recreational catch accounting and recreational accountability have sometimes confused the two subjects. A better understanding of the intent of the recommendations for considering changes to accountability measures (e.g., in-season closures, more frequent repayments of RHL overages) would be beneficial.

Role of Steering Committee

The Steering Committee agreed that they have fulfilled their mission and should disband. Further discussions of this action should occur at the level of the Board and the full Council or the Council's committees. They recommended that the Council and Board initiate a management action such as a framework/addendum to further develop priority approaches considered through the Recreational Reform Initiative. Further development would follow the standard process with involvement by a technical group (e.g., an FMAT, the Monitoring and Technical Committees, or a different group), Council committees or the full Council and Board, as appropriate.

Next Steps

In summary, the Steering Committee recommended that the Council and Board initiate a management action to pursue priority topics and that a technical group (e.g., the Monitoring/Technical Committee or a separate group) move forward with further developing and

analyzing topics such as identifying and smoothing outlier MRIP estimates and the stepped approach to recreational management measures proposed through the Harvest Control Rule.

Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: July 27, 2020

To: Chris Moore, Executive Director

From: Julia Beaty, staff

Subject: Recreational Reform Initiative - Topics Requiring an FMP Amendment vs. Framework/Addendum

During their June 2020 joint meeting, the Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission's Summer Flounder, Scup, and Black Sea Bass Management Board (Board) asked for clarification on which topics currently under consideration through the Recreational Reform Initiative, as well as topics removed from the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment could be pursued through an FMP framework/addendum and which would require a full FMP amendment.

The federal regulations describe the framework process and list the types of management changes which may be pursued through a framework action. The associated regulations for summer flounder are found at 50 CFR § 648.110 and are also included in the briefing materials for the August 6, 2020 joint meeting of the Council and the Board. The corresponding regulations for scup, black sea bass, and bluefish are very similar. These regulations list the types of management changes which may be considered through a framework as opposed to a full FMP amendment. Of note for the Recreational Reform Initiative and related discussions, the list of frameworkable items includes introduction of new accountability measures, permitting restrictions, recreational possession limits, recreational seasons, recreational harvest limits (RHLs), specifications quota setting process, any other recreational management measures, and any other measures currently included in the FMP.

It is important to emphasize that a framework may not always be appropriate even if the type of change falls within a category listed in the framework regulations. If the specific proposed action represents a significant departure from previously contemplated measures or otherwise introduces new concepts, an amendment may be more appropriate than a framework. This is expressly stated in the framework regulations for summer flounder, black sea bass, and bluefish.

The federal regulations and discussions with the NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO) staff suggest that the following topics discussed through the Recreational Reform Initiative and/or the Commercial/Recreational Allocation Amendment

could potentially be considered through a joint FMP framework/addendum, depending on the details of the specific change considered:

- Everything listed in the Recreational Reform Initiative outline developed by the Steering Committee, including:[1]
    - Adopting a standardized process for identifying and smoothing outlier MRIP estimates.
    - Using an "envelope of uncertainty" approach when determining if changes in recreational management measures are needed (i.e., if next year's RHL falls within a pre-defined range above and below the projected harvest estimate, then no changes would be made to management measures).
    - Evaluating the pros and cons of using preliminary current year MRIP data.
    - Developing guidelines for maintaining status quo measures.
    - Setting recreational management measures for two years at a time with a commitment to making no changes in the interim year unless required due to poor stock status.
    - Considering improvements to the process used to make changes to state and federal recreational management measures.
    - Changing the timing of the recommendation for federal waters recreational management measures from December of the previous year to October or August.
- Changes to recreational accountability measures, such as changes to requirements for payback of overages and in-season closures (a topic removed from the Commercial/Recreational Allocation Amendment).
- The pre-determined management measure step approach described in the Harvest Control Rule proposal put forward by 6 recreational fishing organizations through scoping for the Commercial/Recreational Allocation Amendment.[2]
- Changes to the data reported through VTRs (depending on the specifics of the change), assuming no changes are made to who is required to submit VTRs.

The following topics discussed through the Recreational Reform Initiative and/or the Commercial/Recreational Allocation Amendment would likely require an FMP Amendment:

- Private angler reporting - This has not been previously contemplated through the FMPs for summer flounder, scup, black sea bass, and bluefish. In addition, if private angler reporting for these species were to be managed at the federal level, it would require private anglers to obtain federal permits.
- Tagging programs for the recreational fisheries - This would likely require an amendment for similar reasons to those described above for private angler reporting.
- Mandatory tournament reporting - This would likely require an amendment for similar reasons to those described above for private angler reporting.

[1] Some items in the Steering Committee outline may not require an FMP change, but could be pursued through an FMP framework/addendum if desired by the Council and Board. See the Steering Committee outline for more details (https://www.mafmc.org/s/2Rec_reform_outline_v6.pdf).

[2] See the summary of July 14, 2020 Steering Committee meeting for more information (available in the briefing materials for the August 6, 2020 joint meeting of the Council and Board).

- Requiring additional entities to submit federal VTRs. For example, requiring private anglers and/or for-hire vessels which only operate in state waters to submit VTRs under the joint FMP would likely require an amendment as this has not been previously contemplated through the FMP and it would represent a notable change from current reporting requirements.

Additional comments from Adam Nowalsky on the Harvest Control Rule Proposal
Emailed 7/24/2020

1) Regarding the question about how to establish what the measures would be at each step in the HCR, here are two ways to attempt this -

- Pull the management history and look at the state specific measures under various stock conditions as explained in the HCR write up.
- Reach out to the states to ask for assistance. State directors could request input from their TC/MC members with whom the HCR concept has been shared so that they understand the context of trying to recommend measures across the spectrum (i.e., least restrictive to most restrictive based on stock condition).

2) Translate measures from step 1 into predicted coastwide harvest based on past performance and other analysis. Input from the Regional Office/Science Center staff on how best to approach this is welcome, but the idea at a high level is to develop a set of measures that has a predictive amount of catch (the state TC/MC members may even be able to provide estimates especially considering their experience with the CE process). That catch does not have to be a point estimate, it can be a range. Steps 3, 4, and 5 are intended to be used to help satisfy MSA requirements.

3) A multi-year average with static measures to generate a "rolling" annual catch estimate could be used. If this rolling estimate is outside of the range of catch associated with step 2 then perhaps there is a management response (just as an example).

4) Use F as a sign post to guide performance. For example, if the rolling annual catch estimates from step 3 is outside of the range of catch in step 2, and F is above its target then management action must be considered. If F is below its target, no management action is necessary.

5) Moving forward on a fixed timeframe (every 5 years?) the performance of measures would be reviewed relative to expected harvest and consider modification to measures if needed.