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

Revised April 24, 2019

TO: Commissioners; Proxies; American Lobster Management Board; Atlantic Coastal Cooperative Statistics Program Coordinating Council; Atlantic Herring Management Board; Atlantic Striped Bass Management Board; Coastal Sharks Management Board; Executive Committee; Horseshoe Crab Management Board; ISFMP Policy Board; Law Enforcement Committee; South Atlantic State/Federal Fisheries Management Board; Summer Flounder, Scup, and Black Sea Bass Management Board

FROM: Robert E. Beal REB
Executive Director

RE: ASMFC Spring Meeting: April 29 – May 2, 2019 (TA 19-036)

The Atlantic States Marine Fisheries Commission's Spring Meeting will be held April 29 – May 2, 2019 at **The Westin Crystal City** (Telephone: 703.486.1111), located at 1800 South Eads Street, Arlington, VA. Meeting materials are available on the Commission website at http://www.asmfc.org/home/2019-spring-meeting. Supplemental materials will be posted to the website on Wednesday, April 24, 2019.

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

As a reminder for those submitting travel vouchers, please note the travel voucher has been revised to reflect the change in the mileage rate for privately owned vehicles to 58 cents/mile. The new voucher can be obtained at http://www.asmfc.org/files/Meetings/ASMFCElectronicTravelVoucher_Jan19.xlsx.

Board meeting proceedings will be broadcast daily via webinar beginning April 29th at 1:00 p.m. and continuing daily until the conclusion of the meeting (expected to be 12:15 p.m.) on Thursday, May 2nd. The webinar will allow registrants to listen to board deliberations and view presentations and motions as they occur. No comments or questions will be accepted via the webinar. Should technical difficulties arise while streaming the broadcast, the boards will continue their deliberations without interruption. We will attempt to resume the broadcast as soon as possible. To register, please go to https://attendee.gotowebinar.com/register/1041506190356646145.

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

Atlantic States Marine Fisheries Commission

Spring Meeting

April 29 – May 2, 2019

The Westin Crystal City

Arlington, Virginia

Public Comment Guidelines

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

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

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

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

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

1. Comments received 3 weeks prior to the start of a meeting week will be included in the briefing materials.
2. Comments received by 5:00 PM on the Tuesday immediately preceding the scheduled ASMFC Meeting (in this case, the Tuesday deadline will be ***April 23, 2019***) will be distributed electronically to Commissioners/Board members prior to the meeting and a limited number of copies will be provided at the meeting.
3. Following the Tuesday, ***April 23, 2019 5:00 PM deadline***, the commenter will be responsible for distributing the information to the management board prior to the board meeting or providing enough copies for the management board consideration at the meeting (a minimum of 50 copies).

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

Final Agenda

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

Monday, April 29

1:00 – 5:00 p.m. **American Lobster Management Board**
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia
Other Members: NEFMC, NMFS
Chair: Train
Other Participants: Perry, Reardon, Carroll, Coogen
Staff: Kerns

1. Welcome/Call to Order *(S. Train)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from February 2019
3. Public Comment
4. Update on the Atlantic Large Whale Take Reduction Team Spring Meeting and Recommendations to NOAA Fisheries *(C. Coogen)*
5. Review Progress on American Lobster Draft Addendum XXVIII *(T. Kerns*)
6. Report from the American Lobster Bait Working Group *(M. Schmidtke*)
7. Review Implementation of the Jonah Crab Fishery Management Plan by Delaware and New York *(S. Train)* **Possible Action**
8. Progress Update on the 2020 American Lobster Benchmark Stock Assessment *(J. Kipp)*
9. Other Business/Adjourn

Tuesday, April 30

8:30 – 10:00 a.m. **Atlantic Herring Management Board**
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey
Other Members: NEFMC, NMFS
Chair: Keliher
Other Participants: Zobel, Eastman, Kaelin
Staff: Rootes-Murdy

1. Welcome/Call to Order *(P. Keliher)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from February 2019
3. Public Comment
4. Consider Addendum II for Final Approval **Final Action**
   - Review Options and Public Comment Summary *(K. Rootes-Murdy)*
   - Advisory Panel Report *(J. Kaelin)*
   - Consider Final Approval of Addendum II

5. Update on 2020-2021 Fishery Specifications *(K. Rootes-Murdy)*
6. Progress Update on Draft Addendum III *(K. Rootes-Murdy)*
7. Review Management Tools Used for Setting Days Out Measures *(K. Rootes-Murdy*) **Possible Action**
8. Consider Approval of 2019 Fishery Management Plan Review and State Compliance Reports *(K. Rootes-Murdy*) **Action**
9. Other Business/Adjourn

10:15 a.m. – Noon **Atlantic Striped Bass Management Board**
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina
Other Members: DC, NMFS, PRFC, USFWS
Chair: Armstrong
Other Participants: Lengyel, Blanchard, Celestino, Latour
Staff: Appelman

1. Welcome/Call to Order *(M. Armstrong)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from February 2019
3. Public Comment
4. 2018 Atlantic Striped Bass Benchmark Stock Assessment **Action**
   - Overview of Benchmark Stock Assessment *(M. Celestino*)
   - Presentation of Peer Review Report *(R. Latour)*
   - Consider Acceptance of 2018 Benchmark Stock Assessment and Peer Review Report for Management Use *(M. Armstrong)*
5. Consider Management Response to the 2018 Benchmark Stock Assessment *(M. Armstrong)* **Action**
   - Review Technical Committee Report on Reductions Needed to Achieve Fishing Mortality Reference Points in 2020 *(N. Lengyel)*
   - Review Adaptive Management Timeline *(M. Appelman)*
6. Recess

Noon – 1:00 p.m. **Lunch** *(On Your Own)*

1:00 – 2:30 p.m. **Atlantic Striped Bass Management Board (continued)**

7. Reconvene
8. Consider Management Response (continued) *(M. Armstrong)* **Action**
9. Consider Forwarding Comments to NOAA Fisheries Opposing Proposed Measures to Lift Ban on Recreational Striped Bass Fishing in Federal Block Island Sound Transit Zone *(M. Armstrong)* **Action**
10. Other Business/Adjourn

12:30 – 5:00 p.m. **Law Enforcement Committee**

(A portion of this meeting may be a closed session for the LEC Coordinator and Committee members only)

Members: Anthony, Blanchard, Carroll, Eastman, Furlong, Gadomski, Garner, Hettenbach, Hogan, Kersey, King, Lauderman, Lynn, Messeck, Moore, Moran, Noel, Pearce, Ray, Santiago, Snellbaker, Williams

Chair: Anthony

Staff: Robson

1. Call to Order/Roll Call of the LEC Representatives *(S. Anthony)*
2. Approval of Agenda and October 2018 Minutes **Action**
3. Public Comment
4. Presentation on Police-Assisted Addiction and Recovery Initiative (PAARI) and Use of NARCAN/NALAXONE
5. Review of 2019 Action Plan
6. Review Potential Atlantic Cobia Regulations in Federal Waters
7. Discuss Use of Drones and Other Technologies in Enforcement
8. Review and Discuss Ongoing Enforcement Activities **Closed Session**
9. State Agency Reports
10. Recess

2:45 – 3:15 p.m. **Coastal Sharks Management Board**

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

Other Members: NMFS, USFWS

Chair: Miller

Other Participants: Frazier, Garner

Staff: Rootes-Murdy

1. Welcome/Call to Order *(R. Miller)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from October 2018
3. Public Comment
4. Final Rule for Highly Migratory Species Amendment 11 (Shortfin Mako)
   - Review Final Rule and NOAA Fisheries Request for Complementary Measures *(K. Brewster-Geisz)*
   - Technical Committee Report *(K. Rootes-Murdy)*
   - Consider Complementary Management Measures *(R. Miller*) **Final Action**
5. Consider Approval of 2018 Fishery Management Plan Review and State Compliance Reports *(K. Rootes-Murdy)* **Action**
6. Other Business/Adjourn

3:30 – 5:00 p.m. **Atlantic Coastal Cooperative Statistics Program (ACCSP) 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: Cahall

1. Welcome/Introductions *(L. Fegley)*
2. Council Consent
   - Approval of Agenda
   - Approval of Minutes from February 2019
3. Public Comment
4. Review Progress on Accountability/Validation *(J. Simpson)*
5. Program Updates
   - Administrative *(M. Cahall)*
   - SAFIS *(M. Cahall)*
   - Recreational *(APAIS Staff)*
6. Committee Updates
   - Commercial Technical
   - Information Systems
   - Joint Operations/Advisors
7. Review and Consider Approval of 2020 Request for Proposals *(L. Fegley)*
8. Other Business/Adjourn

5:30 – 7:00 p.m. **Annual Awards of Excellence Reception**

Wednesday, May 1

8:00 – 10:30 a.m. **Executive Committee**
Breakfast will be available at 7:30 a.m.
(A portion of this meeting may be a closed session for Committee members and Commissioners only)
Members: Abbott, Blazer, Bowman, Boyles, Jr., Cimino, Clark, Estes, Gilmore, Grout, Haymans, Keliher, McNamee, Miller, Miner, Murphey, Pierce, Shiels
Chair: Gilmore
Staff: Leach

1. Welcome/Call to Order *(J. Gilmore)*
2. Committee Consent
   - Approval of Agenda
   - Approval of Meeting Summary from February 2019
3. Public Comment
4. Report of the Administrative Oversight Committee *(P. Keliher)*
   - Presentation of the FY2020 Budget
   - Develop Process to Address Non-Payment of State Assessments
5. Discuss Allocation of Atlantic Coastal Act Plus-Up Funds *(R. Beal)*
6. Review Draft Standard Operating Procedures and Policies for Management Board Work Groups
7. Future Annual Meetings Update *(L. Leach)*
8. Executive Director Performance Review **(Closed Session)**
9. Other Business/Adjourn

8:00 a.m. – Noon **Law Enforcement Committee (continued)**

11. Reconvene/Social
12. Review and Discuss Mid-Atlantic Fishery Management Council Enforcement Workshop
13. Review and Discuss Offshore Enforcement Vessel Working Group
14. Review and Discuss ASMFC Species Issues, as Needed
15. Presentation on Electronic Reporting in the South Atlantic and Gulf of Mexico
16. Group Photograph
17. Discuss Criteria/Metrics for Evaluating Enforcement Effectiveness
18. Federal Agency Reports
19. Adjourn

10:45 a.m. – 12:15 p.m. **Summer Flounder, Scup, and Black Sea Bass Management Board**
Member States: Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina
Other Members: NMFS, PRFC, USFWS
Chair: Ballou
Other Participants: Wojcik, Snellbaker
Staff: Starks, Rootes-Murdy

1. Welcome/Call to Order *(R. Ballou)*
2. Board Consent
   - Approval of Agenda
3. Public Comment
4. Review Plan Development Team Analysis of Black Sea Bass Commercial Management Strategies to Address Fishery Shifts *(C. Starks)* **Possible Action**
   - Advisory Panel Report
5. Review and Populate Advisory Panel Membership *(T. Berger*) **Action**
6. Other Business/Adjourn

12:15 – 1:15 p.m. **Lunch** *(On Your Own)*

1:15 – 2:30 p.m. **Business Session**
Member States: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Chair: Gilmore
Staff: Beal

1. Welcome/Call to Order *(J. Gilmore)*
2. Committee Consent
   - Approval of Agenda
   - Approval of Proceedings from October 2018
3. Public Comment
4. Review and Consider Approval of 2019-2023 Strategic Plan **Final Action**
5. Consider Approval of the Summer Flounder Commercial Issues Amendment **Final Action**
6. Recess

2:45 – 5:15 p.m. **Horseshoe Crab Management Board**

Member States: Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Other Members: PRFC, NMFS, USFWS
Chair: Rhodes; Cimino (Vice-Chair) serving as chair for this meeting
Other Participants: Brunson, Messeck, Jacobson, Sweka
Staff: Schmidtke

1. Welcome/Call to Order *(J. Cimino)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from October 2018
3. Public Comment
4. 2019 Horseshoe Crab Benchmark Stock Assessment **Action**
   - Presentation of Stock Assessment Report *(J. Sweka*)
   - Presentation of Peer Review Panel Report *(L. Jacobson*)
   - Consider Acceptance of Benchmark Stock Assessment and Peer Review Report for Management Use *(J. Cimino)*
5. Consider Management Response to the 2019 Horseshoe Crab Benchmark Stock Assessment *(J. Cimino)* **Possible Action**
6. Review and Populate Advisory Panel Membership *(T. Berger*) **Action**
7. Other Business/Adjourn

Thursday, May 2

8:00 – 9:45 a.m. **Interstate Fisheries Management Program Policy Board**

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

1. Welcome/Call to Order *(J. Gilmore)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from February 2019
3. Public Comment
4. Update from Executive Committee *(J. Gilmore)*
5. Update from the Risk Policy Work Group *(J. McNamee)*
6. Update on Marine Recreational Information Program Transition to New Surveys *(D. Van Voorhees, R. Cody)*
7. Committee Reports
   - Law Enforcement *(M. Robson)*
   - Artificial Reef *(L. Havel)*
8. Review Noncompliance Findings (If Necessary) **Action**
9. Other Business/Adjourn

9:45 – 10:00 a.m. **Business Session (continued)**

7. Reconvene
8. Consider Noncompliance Recommendations (If Necessary) **Final Action**
9. Other Business/Adjourn

10:15 a.m. – 12:15 p.m. **South Atlantic State/Federal Fisheries Management Board**
Member States: New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
Other Members: DC, NMFS, PRFC, SAFMC, USFWS
Chair: Geer
Other Participants: McDonough, Rickabaugh, Lynn
Staff: Schmidtke

1. Welcome/Call to Order *(P. Geer)*
2. Board Consent
   - Approval of Agenda
   - Approval of Proceedings from February 2019
3. Public Comment
4. Review and Consider Draft Amendment 1 to the Cobia Fishery Management Plan for Public Comment *(M. Schmidtke*) **Action**
5. Review State-Gathered Public Input and Consider Management Action for Atlantic Croaker and Spot *(P. Geer)* **Possible Action**
6. Other Business/Adjourn

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MEMORANDUM

TO: American Lobster Management Board

FROM: Draft Addendum XXVIII Lobster Plan Development Team

DATE: April 23, 2019

SUBJECT: Draft Addendum XXVIII Progress

In February, the American Lobster Board (Board) initiated Draft Addendum XXVIII to reduce the number of vertical lines in the lobster fishery (see full motion at the end of the memo). The Board acknowledged the need to respond proactively to the growing challenges facing the lobster fishery and North Atlantic Right Whale recovery, in order to ensure effective conservation measures can occur in a manner that preserves, to the extent practicable, the lobster fishery and its culture.

The Plan Development Team (PDT) was tasked with completing a draft addendum for public comment for Board review at the Commission's 2019 Spring Meeting Week. The PDT has met weekly since early March to develop a document and has made significant progress. As part of the Take Reduction Team (TRT) support, collaborators working on updating a vertical line model and the TRT's co-occurrence model identified a way to use existing information and the input of the TRT to model the current risk landscape and to compare risk reduction elements effect on the landscape called the Risk Reduction Decision Support Tool (RRDST). However, due to the timing of data and the decision support tool delivery, as well as the complexity of the issue, the PDT is unable to present a document for Board review at the Commission's Spring Meeting.

The intersection of lobster management and whale conservation is complex and thus has required the PDT to work through many issues including data sources and a pending risk reduction support tool. The PDT was tasked with reducing the number of end lines in the lobster fishery, a fishery in which all states do not require the reporting of end lines in harvester reports. Absent of a comprehensive and consistently collected set of end line data, the PDT is dependent upon IEC (A NOAA contractor) end line data that was updated in coordination with New England states, and released on April 1, 2019. The PDT is still trying to reconcile the difference in how data are collected by jurisdiction and how those differences impact the ability to quantify end lines.

As the PDT was developing the draft, NOAA Fisheries staff announced the agency would be making the risk reduction decision support tool available for use by the TRT to assist in the comparison between potential risk reduction scenarios at the TRT's meeting during the end of April.

As described by NOAA Fisheries, the RRDST could provide insight on potential impacts proposed management options would have on risk to whales. While the task to the PDT was to reduce the number of endlines in the fishery, how NOAA Fisheries will evaluate the potential of various management options to reduce the risk to North Atlantic Right Whales is unknown at this time. In order to provide a complete and comprehensive document for Board review, the PDT will need to have a better understanding of the RRDST.

Below the PDT has identified areas where the team has made progress and challenges that have complicated the team's ability to complete a draft addendum for Board review in advance of the April meeting. The PDT remains dedicated to developing this document in a thoughtful and thorough manner for Board review during the Summer Meeting Week.

PDT Areas of Concern:

1. Data (number of end lines for state and Federal Permit holders by LCMA)

Progress:

1. Agreed to use total monthly end lines from 2017 as a recommended baseline year, if there can be a discussion of different credit by area for reductions that occurred in 2015 and 2016.
2. Agreed to use MA and NH state data to get total monthly end lines for 2017
3. Agreed to use 2017 IEC data for all other states and Federal waters to get total monthly end lines for 2017
4. The PDT identified challenge #3 below and agreed how to collect the needed data elements moving forward.

Challenges:

1. Understanding how Addendum XVIII trap reductions impact end lines. How far back in time should the PDT give credit? Should the PDT take into account attrition in the fishery in that timeframe?
    a. Trap reductions in LCMAs 2 and 3 began ahead of the start of the 2016 fishing year. Therefore those states are interested in credit for those trap reductions; however, the Biological opinion will use a baseline year no earlier than 2017. The PDT is challenged in how to reconcile the difference in those years and give credit to those areas.
2. How to measure end line reductions for current closures? If states are to receive credit for current closures, what method should be used to determine credit?
3. Reconcile the difference in how data are collected by jurisdiction and how it impacts the ability to quantify end lines (the different tools to collect the data e.g. VTRs vs annual recall and the different data fields (e.g. daily buoy lines vs monthly buoy lines)).

2. Risk Reduction Model (RRM)

Progress:

1. Recommend LCMA 5 not be included in the addendum because there are currently no proposals south of the 40 degree line from the TRT. This may need to be revisited after the TRT meeting, depending on recommendations.

Challenge:

1. As of April 17th the RRDST has not been released in full. The PDT was provided with a preview of the RRDST on April 10th and the model concept was released to the TRT on April 16th but a fully functioning RRDST had not been released by NOAA. The PDT needs to understand the risk levels to draft options for the addendum.
2. There is not RRDST for LCMA 4 at this time.

3. Additional Challenges:

1. The Take Reduction Team Meeting (TRT) is April 23-26, 2019. The PDT will not know the outcome of the TRT recommendation, yet measures could impact the options in the addendum (e.g. if the TRT has an area closure where traps are required to come out of the water then end lines would be decreased).
2. How to evaluate adopted measures in future years? Will the IEC data be updated in the future in order to measure success of management tools? If so, once there is 100% reporting, can evaluation of success be calibrated with the IEC model's evaluation?
3. How does the PDT balance the desire for state flexibility in choosing management tools within an LCMA with the need for consistency in Federal waters for all users within that LCMA?

Board Motion

Move to initiate an addendum to reduce the number of vertical lines in the water. The PDT should consider the following as specified in the Lobster-Whale Work Group Memo. The PDT may need to consider the ongoing activities of the ALWTRT when drafting this document.
• Reduction of vertical lines by 20% to 40% for each LCMA (exclusive of LCMA 6). Percent reductions by LCMA may differ given ongoing and future trap reductions as well as newly proposed or implemented area closures in state and federal waters.
• In LCMAs 1, 4, 5, and OCC: reductions can be achieved by trap limits, gear configurations, season closures, or other measures.
• In LCMAs 2 and 3: reductions can be achieved by gear configurations, seasonal closures, acceleration of current planned trap reduction, or other measures.
• Elimination of the 10% replacement trap tag provision.
• Developing a method for reporting vertical line and trap use by individuals in each jurisdiction until 100% harvester reporting is implemented in state and federal waters. Motion made by Mr. Borden and seconded by Mr. Grout. Motion carries (11 in favor).

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MEMORANDUM

April 16, 2019

To: Atlantic Herring Management Board

From: Atlantic Herring Advisory Panel

RE: AP Review of Draft Addendum II

List of Participants

Beth Casoni
Shawn Joyce
Joseph Jurek
Jeff Kaelin (AP Chair)
Glenn Robbins
Mary Beth Tooley

Staff
Kirby Rootes-Murdy (ASMFC)

The following memo contains the Atlantic Herring Advisory Panel's review of the Draft Addendum II Alternatives for Spawning Areas Management

The AP met via conference call on April 16th, 2019 to review Draft Addendum II. After a presentation of the Addendum options, AP members asked questions and provided comments on the options. Comments and recommendations are summarized below, broken out by individual decision point as presented in the document.

Management Program:

Issue 1: GSI_{30} Trigger Value

Three AP members were in favor of maintaining the status quo value (Option A, value of 25), one member indicated their support for Option B (Value of 25 with updated data and different default closure dates) and one indicated their support for Option C (Value 23). Reasons cited in support on status quo were numerous, most notably concern that the current spawning program has been in place for 3 years (2016-2018), and while spawning samples have been collected from 2005- 2017, and the current version of the program has not been in place long enough to justify adjusting the program further. Additional reasons in support of the status quo included the need to collect more spawning samples over time and potential negative impacts to the fishery on top of the already reduced quotas in 2019. Reasons cited in support of Option C was the need to provide greater protection to herring population when spawning is occurring.

Issue 2: Spawning Closure Length

Three AP members were in favor of maintaining the status quo value (Option A, 4 week closure), one member indicated their support for Option B (5 week closure), and one indicated their support for Option C (6 week closure). Reasons cited in favor of the status quo again included the need for additional years of data from the current spawning protection program, but also the negative impacts the closure would have on fisheries targeting herring, particularly later in the fishing year. Reasons cited in support of Option B and C was that the current closure period length has not been enough in recent years to cover the spawning season and extending the closure length may address this better.

Issue 3: Re-closure Protocol

Three AP members indicated their support for Option A, Sub-Option 1 (status quo; 25% or more mature herring) and two members indicated their support for Option A, Sub-Option 2 (20% or more mature herring). Similar to those reasons cited for Issue 1 and 2, those in support of the status quo focused on the need for more samples and a longer duration of the current spawning program before making changes. Reasons cited in support of Sub-Option 2 again focused on the need for greater protection of the herring resource when spawning in occurring.

Additional Comments:

- One AP member took issue with the extent of information in Draft Addendum II on the 2018 stock assessment, specifically on the lack of a stock-recruitment relationship and – fishing mortality's effects on the overall population. Another AP member pointed out that the assessment notes environmental changes could also be affecting herring recruitment. Additionally, this AP member noted that the Draft Addendum was lacking in analysis on the impacts to the fishery by the proposed management alternatives and this information is necessary for evaluating the costs of potential changes. This AP member also noted that the New England Fishery Management Council will likely be implementing catch limits for 2020 and 2021 that with be based on a new Control Rule for specifying harvest (as part of the Amendment 8) that afford greater protection of herring- this should be taken into account when considering changes to the current spawning program.

- Several AP members indicated that they disagree with some recent survey information that shows reduced recruitment in Area 1A; rather the AP members think recruitment in this area is up in recent years, but lower in Areas 2 and 3. One AP member noted that 2018 stock assessment doesn't account for data from 2018, which may be showing an increasing trend in recruitment.

- Following the call, an Additional AP member unable to participate indicated their support by email for Option B (Value of 25 with updated data and different default closure dates) for Issue #1; Option C (6 week closure) for Issue #2; and Option A, Sub-

Option 2 (20% or more mature herring) for Issue #3. For Issue #2 they indicated another option not listed, that would include weekly monitoring of Spawning so that the fishery could be closed with a week buffer on either side of spawning aggregation would be preferred.

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MEMORANDUM

TO: Atlantic Herring Management Board

DATE: April 19, 2019

SUBJECT: Overview of 1A Management Tools

In May 2017 the Atlantic Herring Management Board (Board) approved Addendum I to Amendment 3. The Addendum added management tools that would allow the Board to keep the bait fishery open for the majority of Trimester 2 (June-September). Since the adoption of the addendum the herring stock has declined and the 2019 quota has been reduced significantly from recent years (31,115 and 31,962 metric tons (mt) in 2017 and 2018 respectively; to 3,850 mt in 2019). Future year quotas are likely to be lower than those in 2019. Due to the significant decline in quota the Board moved to bi-monthly quota periods. Even with the additional management tools, due to the low quota levels the bi-monthly quotas could be harvested as quickly as 3 weeks depending on a number of variables. During the first few quota periods staff and the states will monitor the effectiveness of the current management tools and provide an update to the Board at their next meeting.

1A Management Tools

1. Days Out:

Prohibit landing days or the possession of herring for only Category A permit holder. For Category C Limited Access Permit or Category D Open Access permits, only those designated as Small Mesh Bottom Trawl can be subject to a day out measure. All other permit holders are not subject to days out measure unless stipulated by state regulations.

Bycatch

During a 'day out', vessels participating in other fisheries may land an incidental catch of herring that does not exceed 2,000 pounds per trip. Vessels may not land more than 2,000 pounds of herring per day caught in an area closed to the directed herring fishing. The bycatch limit is specified in the federal FMP and pertains to the Atlantic Mackerel Fishery as well.

2. Weekly Landings Limit:

Limits the amount of herring a vessel may land on a weekly basis for Category A permit holders.

3. Restrictions on Transfers At-Sea and Carrier Vessels:

Restricts who (harvester/carrier) can transfer at sea and the number of transfer that can occur. The restrictions can be specific to federal permit category or gear type.

The States can elect to allow transfers at sea, prohibit transfers at sea or only allow limited transfers. When prohibiting transfers the states can choose to prohibit transfers at-sea by restricting harvester-to-harvester transfers, harvester-to-carrier vessel transfers, or both. When limiting transfers, harvesters are limited to making at-sea transfers to only one carrier vessel per week; carrier vessels are limited to receiving at-sea transfers from one harvester vessel per week, and carrier vessels are limited to making one landing per 24 hour period.

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

April 22, 2019

To: **Atlantic Striped Bass Management Board**

From: **Atlantic Striped Bass Technical Committee**

RE: **Percent reduction in harvest to achieve F threshold and F target in 2020, and example recreational options to achieve those reductions**

At its February 2019 meeting, the Atlantic Striped Bass Management Board (Board) reviewed preliminary results of the 2018 Benchmark Stock Assessment for Atlantic striped bass which indicated the stock was overfished and experiencing overfishing. Unfortunately, due to the partial lapse in federal appropriations, the final assessment and peer-review panel reports were not available for this meeting and formal review of those reports was postponed to the ASMFC Spring Meeting. However, as a first step in determining a management response to the assessment findings, the Board made the following motion: "Move to task the TC with providing the Board with a report that shows the reductions in harvest needed to reduce F to F threshold (0.24) and F target (0.197) and also providing one example of recreational bag and size limit combination (if necessary, seasonal restrictions) needed to achieve these conditions a) on the coast and b) in the Chesapeake Bay and report back to the Board in May."

M19-032

Task 1: Projections to determine harvest reductions

Methods and Data

The terminal year of the assessment was 2017, and, with guidance from the Board, the TC assumed management would be implemented in 2020. Therefore, the TC had to make assumptions about total removals in 2018 and 2019. Preliminary estimates of recreational removals were available for 2018, but estimates of commercial removals were not. The TC used the average ratio of commercial removals (harvest and dead discards) to total removals from 2015 – 2017 to estimate commercial removals for 2018-2020. Recreational removals in 2018 were significantly lower than in 2017 (5.0 million fish in 2018 compared to 6.4 million fish in 2017) (Figure 1). The TC ran projections using the 2018 total removals estimate as a proxy for total removals in 2019, and also ran projections using the average removals from 2016 – 2018 as a proxy for 2019 removals. Recreational dead releases are estimated using a 9% post-release mortality rate for MRIP's estimate of B2 striped bass (i.e., striped bass caught and released alive).

Results

Projection results are shown in Table 1. In order to have a 50% chance of being at or below the F threshold (F=0.240) in 2020, removals for 2020 needed to be 7.1 million fish. This is approximately equal to total removals in 2017, and a 26% increase from 2018 levels. This assumed that 2019 removals were equal to 2018 removals. Using the most recent 3-year average resulted in very similar results: removals to achieve the F threshold needed to be 7.0 million fish, a 1% decrease compared to 2017 and a 24% increase relative to 2018.

In order to have a 50% chance of being at or below the F target (F=0.197) in 2020, removals for 2020 needed to be 5.9 million fish. This is a 17% reduction from 2017 levels and a 5% increase from 2018 levels. This assumed that 2019 removals were equal to 2018 removals; using the most recent 3-year average again resulted in very similar results: removals to achieve the F target would be equal to 5.8 million fish, an 18% decrease compared to 2017 and a 3% increase relative to 2018.

Discussion

Overall, because of the reduction in removals in 2018 that has already occurred and the strong 2014 and 2015 year classes beginning to enter the exploitable population, there was a 50% chance of being at or below the F threshold in 2020 by keeping removals approximately equal to 2017 levels. To have a 50% chance of achieving the F target, an approximately 17% reduction from 2017 would be necessary (or no reduction relative to 2018).

It should be noted that for all of the scenarios, although striped bass female spawning stock biomass (SSB) increased slightly by 2020, SSB was still projected to be below both the target and the threshold (Figure 2).

The estimates from the projection analysis have uncertainties associated with them. For the projections, the 2018 and 2019 total removals are not known yet. The recreational data for

2018 are still preliminary, and commercial landing and discards are not available. In addition, the TC had to make an assumption about what removals in 2019 would be. The decline in recreational removals from 2017 to 2018 increased uncertainty about what removals would be like in 2019, but the sensitivity analysis suggested the estimate of the reduction necessary to achieve F threshold and F target were relatively similar even if removals in 2019 were higher than in 2018.

Task 2: Size and bag limit analysis

Methods and Data

The TC developed an example management change for the ocean recreational fishery and for the Chesapeake Bay (Bay) recreational fishery that would achieve a 17% reduction in total recreational removals (harvest and dead discards) relative to 2017 to reach F target. The TC assumed commercial removals would also be reduced by 17% through other management actions, so the reduction in total removals would be enough to bring F to the target. Since the ocean is already at a 1-fish bag limit and fishing seasons vary so much along the coast, the TC only looked at a size limit analysis for the ocean. For the Bay, a reduction in bag limit resulted in a greater than 17% reduction, so it is not presented here. A season analysis was conducted for the Bay that resulted in several options for reducing the recreational season and achieving the required 17% reduction. Due to the TC's request to see additional data on the daily catch rate assumptions for that analysis, and for simplicity and ease of comparison with the ocean, only the size limit analysis is presented here.

For this analysis, the TC used MRIP length frequency data from 2016 and 2017. In 2020, the 2014 and 2015 year classes will be the same age as the 2011 year class was in 2016 and 2017, so the TC believed that those years would be most representative of the size structure of the population in 2020.

Maryland and Virginia currently have different size limits within the Bay, so separate analyses were conducted for each state to achieve a 17% reduction within the Bay. In 2016 and 2017, Maryland's minimum size was 20 inches and was decreased to 19 inches in 2018. As 19 inch fish were not fully represented in the 2016-2017 harvest length frequency, the proportion of 19 inch fish in the harvest was estimated as the average proportion in the harvest from 2000-2014, when the minimum size was 18 inches.

Results

Results for the regional size limit analyses are shown in Table 2. In the ocean (which includes ocean waters from Maine – North Carolina and non-Chesapeake Bay inland waters like Delaware Bay and Long Island Sound), the current minimum size limit is 28 inches. In order to reduce total removals by 17%, the size limit would need to be increased to 35 inches. This analysis assumed that current non-compliant harvest (harvest of fish smaller than the current size limit) would still occur. As with any increase in minimum size, dead releases would be expected to increase as anglers would have to release fish that were no longer of legal size.

Under the 35 inch size limit, dead releases are expected to increase by 3% in the ocean. This increase is more than offset by the reduction in harvested fish.

A 17% reduction is estimated if Maryland raised the minimum size limit from 19 inches for the summer/fall season to 21 inches. In Virginia, an 18% reduction is estimated if the 20 inch minimum size limit is increased to 22 inches. Under these scenarios, dead releases are expected to increase by 4.3% for Maryland and 3.5% for Virginia, but again, the increase is offset by the reduction in harvest.

Discussion

The largest source of uncertainty comes from the assumptions made for the size limit analysis. As with all size, season, and bag limit analyses, the future availability of different size classes, and changes in effort and angler behavior resulting from management changes, or other factors cannot be incorporated into the analysis. As a result, the realized reductions from a size limit change could be very different from what was estimated. The TC chose years of catch length data where the size structure is similar to what the TC would expect to see in 2020, but there is uncertainty in that assumption, especially given that there has only been one strong year class in recent years prior to 2014 and 2015. Potential changes in effort and angler behavior – such as high grading, needing to fish longer and discard more fish to harvest a legal-size fish, or choosing not to take a fishing trip because the limits are too onerous – are even harder to account for.

This uncertainty can be seen in the recent history of the striped bass fishery. When ASMFC implemented Addendum IV in 2015, total removals and F declined as predicted in that year. However, for 2016 and 2017, recreational removals increased to pre-Addendum IV levels even though management measures remained the same. Similarly, recreational removals declined 20% from 2017 to 2018, most likely driven by a drop in fishing effort: the number of total trips from Maine – North Carolina was 37% lower and directed striped bass trips were 12% lower in 2018 than in 2017. This was despite virtually the same management measures in both years. Changes in effort and fish availability have a large effect on the realized harvest under this kind of management regime.

The TC discussed season changes as a potential management option to reduce harvest without increasing dead releases. In some jurisdictions with seasons where striped bass is the only available sportfish, closing that season would result in those trips not being taken, and harvest and dead releases would be reduced. However, for other states or jurisdictions, if the striped bass season was shortened, anglers might target another species or switch to catch-and-release only for striped bass. Those trips might still occur, striped bass might still be encountered, and while harvest would be reduced, dead releases would likely increase. The TC supports season changes as a method to reduce total removals, but it may not reduce dead releases in all areas.

Table 1. Estimated removals to achieve the F threshold and F target in 2020.

Removals to get to F threshold (F=0.240) in 2020				
Year	Probability SSB < SSB threshold	Probability F > F threshold	Removals (Numbers of fish; 2019 = 2018)	Removals (Numbers of fish; 2019 = 3 yr avg)
2017	1.00	1.00	7,058,838	7,058,838
2018	1.00	0.11	5,631,901	5,631,901
2019	1.00	0.03	5,631,901	6,631,882
2020	**0.99**	**0.50**	**7,092,400**	**6,986,000**
% Change Relative to 2017			0%	-1%
% Change Relative to 2018			+26%	+24%

Removals to get to F target (F=0.197) in 2020				
Year	Probability SSB < SSB target	Probability F > F target	Removals (Numbers of fish; 2019 = 2018)	Removals (Numbers of fish; 2019 = 3 yr avg)
2017	1.00	1.00	7,058,838	7,058,838
2018	1.00	0.75	5,631,901	5,631,901
2019	1.00	0.45	5,631,901	6,631,882
2020	**1.00**	**0.50**	**5,894,000**	**5,796,000**
% Change Relative to 2017			-17%	-18%
% Change Relative to 2018			+5%	+3%

Table 2. Size limit analysis for the ocean region (includes non-Chesapeake Bay inland waters such as Delaware Bay and Long Island Sound) and Chesapeake Bay.

Ocean Size Limit		
	28" Size limit (current)	35" Size limit
Harvest	1,732,344	898,552
Dead releases	2,609,528	2,684,569
Total recreational removals	4,341,872	3,583,122
% Reduction	--	-17.5%

Chesapeake Bay Size Limit				
	Maryland 19" Size limit (current)	Maryland 21" Size limit	Virginia 20" Size limit (current)	Virginia 22" Size limit
Harvest	1,003,700	693,707	110,304	66,361
Dead releases	654,761	682,660	113,081	117,036
Total recreational removals	1,658,461	1,376,368	223,385	183,397
% Reduction	--	-17.0%	--	-17.9%

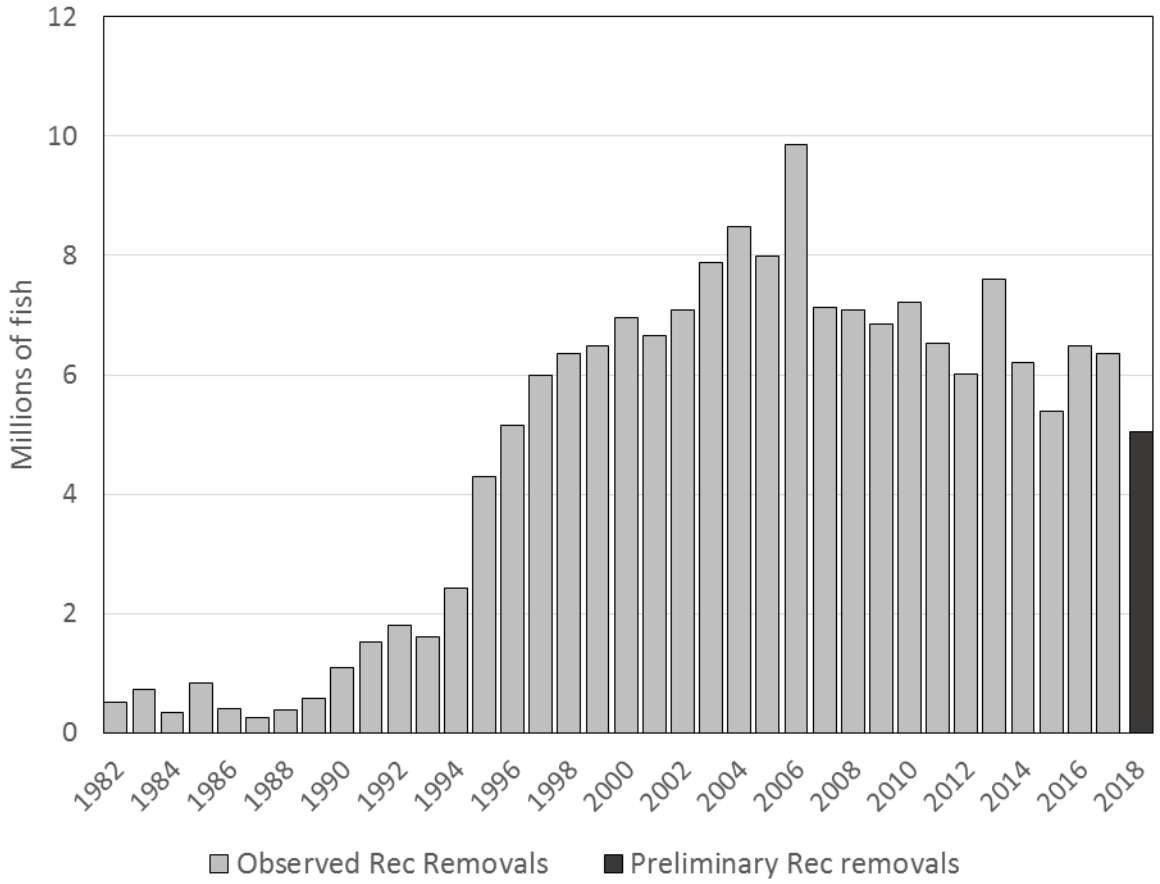

Figure 1. Time series of recreational removals (harvest + dead releases). The 2018 value used in the projection is preliminary.

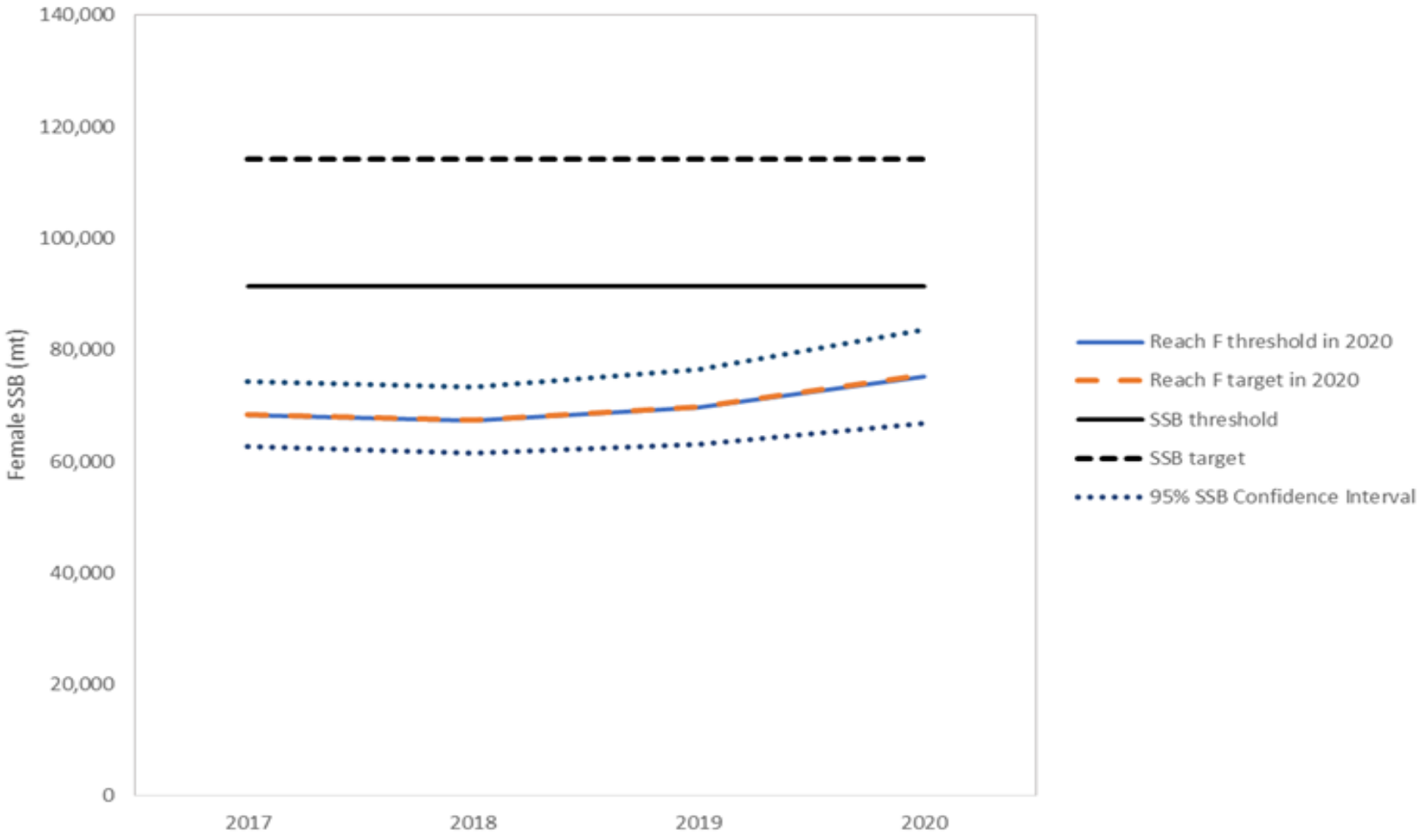

Figure 2. Female spawning stock biomass (SSB) trends under different removal scenarios, plotted with the SSB target and threshold.

April 17, 2019

Chairman James S. Gilmore, Jr.
Atlantic States Marine Fisheries Commission
1050 N. Highland Street, Suite 200A
Arlington, VA 22201

Dear Chairman Gilmore:

We are writing today to express our serious concerns regarding the current status of Atlantic striped bass, and to request that the Commission take immediate action to prevent further depletion and start rebuilding striped bass stocks. As you know, a recent benchmark stock assessment found that striped bass are overfished and that overfishing is occurring. Even more troubling, new data show that striped bass spawning stock biomass has remained below its critical lower threshold since 2013, and the fishing mortality rate has remained above its upper threshold since 2010. It is evident that status quo management will be inadequate to return the striped bass stock to target levels of biomass and fishing mortality indicative of a healthy fishery.

For those reasons, we believe that it is absolutely necessary for the Commission to adopt a new Addendum to Amendment 6 of the Atlantic Striped Bass Fishery Management Plan (FMP) no later than its 2019 Annual Meeting in October, with the goal of significantly reducing fishing mortality. We understand that instituting a full suite of conservation and management measures will require a new Amendment to the FMP. However, it is clear that we cannot afford to continue unsustainable levels of fishing while we work though the lengthy Amendment process. Amendment development should begin concurrently with development of an emergency Addendum, and should reject half measures in favor of strong and enforceable actions that firmly place the striped bass stock on the road to recovery.

While we do not prejudge which management tools could most effectively achieve harvest reductions, we agree that all options should be on the table, including measures to shorten fishing seasons, reduce release mortality, and ensure that more of the large female fish that are critical to spawning success remain in the water. Further, we believe that individual states should consider taking immediate measures to reduce fishing mortality in upcoming fishing seasons that occur before a new Addendum is implemented. We urge the Commission to incentivize states to be proactive by signaling that any reductions achieved during that period will be credited toward states' conservation responsibilities under a new Addendum.

Scientific evidence and what fishermen in our states are seeing on the water tell us that bold action to protect striped bass is long overdue. Rebuilding striped bass stocks and sustaining them at target levels of abundance is incredibly important to fisheries in both of our states. We urge

the Commission to implement measures that will reduce striped bass harvests to sustainable levels as quickly as possible.

Sincerely,

Katherine Dykes
Commissioner, Department of Energy and Environmental Protection
State of Connecticut

Matthew A. Beaton
Secretary, Executive Office of Energy and Environmental Affairs
Commonwealth of Massachusetts

Matthew J. Strickler
Secretary of Natural Resources
Commonwealth of Virginia

COMMONWEALTH of VIRGINIA

Marine Resources Commission
Building 96
380 Fenwick Road
Fort Monroe, VA 23651

Matthew J. Strickler
Secretary of Natural Resources

Steven G. Bowman
Commissioner

April 5, 2019

Chairman James S. Gilmore, Jr.
Atlantic States Marine Fisheries Commission
1050 N. Highland Street, Suite 200A
Arlington, VA 22201

Dear Chairman Gilmore:

Please accept our commitment to participate in the striped bass rebuilding plan that we expect the ASMFC will promote at its April 30, 2019 meeting. We fully support reducing the current (2017) fishing mortality rate of 0.307 to the target fishing mortality rate of 0.197 or lower within one year.

We realize this is the second time in six years the ASMFC must accept the difficult challenge to revitalize the striped bass resource and the fisheries that depend on this prized resource. In Virginia, we need to take a first step towards the expected reduction plan that awaits all states. Virginia has enjoyed three spring trophy-size fisheries since 1995, with the Chesapeake, Coastal and tributaries of the Potomac as sites for these recreational fisheries. On April 23, 2019 the VMRC Commission will consider an emergency proposal from its staff to eliminate these three trophy-size striped bass fisheries. Our intent is to curtail the harvest of larger striped bass in the spring.

The trophy-size fisheries are managed by a one-fish possession limit and 36-inch minimum size limit in all areas except the Virginia tributaries of the Potomac River where the minimum size limit is 35 inches. The open trophy-size fishing seasons vary by area, with the Bay season as May 1 through June 15 being the longest. The amount of savings in harvest from this proposed emergency action, is not extensive, likely less than one percent of all harvested striped bass in 2017. We do request that any harvest savings from this action be applied to any savings in mortality required by ASMFC in the near future.

Concerning the technical feasibility that may be available to construct reduction strategies, we are concerned about the disproportionate geographical distribution of dead discards. Virginia usually enjoys a modest discard rate in its recreational striped bass fisheries. From 2015 through 2018 Virginia averaged 4.4% of the coast-wide dead discards. Since the fishing mortality rate is

influenced by the magnitude of harvest and dead discards, we hope the ASMFC can plan to include both components of mortality in its overall plan for reduction in the fishing mortality rate.

Thank you for your consideration of this information. We will provide you with the outcome of our Commission's action on this emergency proposal.

Sincerely,

Steven G. Bowman

Max Appelman

From: Top Hook <ssofabed@aol.com>
Sent: Thursday, April 18, 2019 4:13 PM
To: Max Appelman
Cc: mark.woolley@mail.house.gov; Emerson Hasbrouck
Subject: Fwd: TRANSIT ZONE

From:CAPTOPHOOK@AOL.COM
To:mappelman@asmfc.org
Sent: 4/18/2019 1:14:20 PM Eastern Standard Time
Subject:

Dear Mr Robert E. Beal

I would like to make a comment in reference to ASMFC opposing draft letter to the transit zone. This small area that NOAA has referred to in their ANPR comment period has captured the concerns of the public fishing community in a very passionate mode. The Striped Bass are a very important fish to the recreational community, how ever, we (meaning management) should not base decisions on emotion, but on "best available scientific information".
We need better data to make hard decisions.
So what I am asking for, is a IFZMA, 4 year pilot program to be in acted. Interim Fisheries Zone Management Act: The For-Hire industry with our new upgraded reporting method would be more than willing to provide science and management to obtain better data to make the" best available scientific"decisions possible to the resource.

Respectfully
CAPT Steven R Witthuhn
AP
MRAC NY
ASMFC
MAFMC
Charter For-Hire
Commercial F/V Top Hook

Max Appelman

From: Top Hook <ssofabed@aol.com>
Sent: Tuesday, April 23, 2019 10:27 AM
To: Robert Beal
Cc: Max Appelman
Subject: TRANSIT ZONE

Dear Mr Robert Beal,
I would like to make a comment in reference to the ASMFC in opposition of the draft letter for an opening of the striped bass transit zone to harvest. The lines of demarcation for the Block Island Transit Zone illustrates how small the area is - in comparison to the inshore coastal waters on the east coast. The discussion which time and again is brought up, is on the impact of harvest of striped bass in what appears to be an insignificant area in size that NOAA has referred to in their ANPR comment period. Over the past few years it has now become an emotional issue without any scientific studies or catch estimates which would ease the concerns of the public fishing community who are very passionate about the sustainability of the biomass.

Striped Bass are on of the most economically important fish to the recreational community, however, we which encompasses management, should not base decisions on emotion, but on what is heard both at the council and here at the Commission meeting discussions that any regulatory changes should be based upon the "best scientific information". Due to all the regulatory concerns on our fish stocks, we continue to ask for the most in depth and updated data possible in order for the Commissioners to make future regulatory decisions on striped bass.

In closing, and what I would recommend to ease the tension between the fishing community and fishery management is in implementing a 3 year pilot under the auspices of an Interim Striped Bass Fisheries Zone Management Act. The For-Hire industry would aid in the various facets of collaborative research that would include the use of our new upgraded electronic reporting method on tracking fishing trips into the current Block Island Transit Zone, real time catch and harvest data as well as tagging of striped bass during these trips.

This should be a big part in bringing both anecdotal and angling information , as well as providing the "best available" science to management in order to help in better managing the striped bass resource in the coming years.

For your consideration,

Capt. Steve Witthuhn

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

April 23, 2019

Mr. James Landon
Director, NOAA OLE
1315 East West Highway
Suite 3301
Silver Spring, MD 20910

Mr. Robert Beal
Executive Director, ASMFC
1050 N. Highland Street
Suite 200 A-N
Arlington, VA 22201

Dear Jim and Bob:

The Mid-Atlantic Fishery Management Council (Council) conducted a Law Enforcement/For-Hire Workshop held on November 13-14, 2018 with attendees from the for-hire industry, U.S. Coast Guard (USCG), NOAA Office of Law Enforcement (NOAA OLE), the Atlantic States Marine Fisheries Commission (ASMFC), the Greater Atlantic Regional Fisheries Office, and Highly Migratory Species (HMS) Division. This workshop addressed several topics, including: (1) Operator versus angler (client) responsibilities for fisheries violations that occur on for-hire vessels, (2) issues related to the sale of golden tilefish and tuna by recreational vessels that do not possess USCG vessel safety requirements for commercial vessels; and (3) complexity of fishing regulations impacting enforceability. As a result, recommendations were presented to the Council's HMS, Law Enforcement, and Tilefish Committees at the April 2019 Council Meeting in Avalon, New Jersey for their consideration.

In reaction to the Law Enforcement – Tilefish – HMS Committee report, the Council passed a motion requesting NOAA OLE and the ASMFC Law Enforcement Committee address the following:

> Recommend the NOAA OLE and ASMFC Law Enforcement Committee explore the development of consistent regulations in both state and federal waters regarding sharing of fish on a recreational fishing trip (co-mingling) while at sea.

Please accept this letter as a formal request from the Mid-Atlantic Fishery Management Council that the NOAA OLE and the ASMFC address this concern as soon as possible.

Please call me or Matt Seeley of my staff if you have any questions.

Sincerely,

Christopher M. Moore, Ph.D.
Executive Director

cc: M. Luisi, W. Elliott, T. DiLernia, D. Hemilright, D. Stutt, S. Heins, J. Montañez, M. Seeley

Atlantic States Marine Fisheries Commission

Executive Committee

May 1, 2019
8:00 – 10:30 a.m.
Arlington, Virginia

Draft Agenda

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

A portion of this meeting may be a closed session for Committee members and Commissioners only

1. Welcome/Call to Order *(J. Gilmore)*

2. Committee Consent
   - Approval of Agenda
   - Approval of Meeting Summary from February 2019

3. Public Comment

4. Report of the Administrative Oversight Committee *(P. Keliher)*
   - Presentation of the FY20 Budget
   - Develop Process to Address Non-Payment of State Assessments

5. Discuss Allocation of Atlantic Coastal Act Plus-Up Funds *(R. Beal)*

6. Review Draft Standard Operating Procedures and Policies for Management Board Work Groups

7. Future Annual Meetings Update *(L. Leach)*

8. Executive Director Performance Review **(Closed Session)**

9. Other Business/Adjourn

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

The meeting will be held at the Westin Crystal City, 1800 S. Eads Street, Arlington, Virginia; 703.486.1111

Vision: Sustainably Managing Atlantic Coastal Fisheries

Atlantic States Marine Fisheries Commission

Draft Work Group Meeting SOPPS

In recent years, Commission management boards have established Work Groups (WG) to efficiently further explore complex management issues. The process and procedures in which individual WG and boards follow have varied by issue and/or board. As the practice to use WG to address issues by boards becomes more frequent, it is important standard policies and procedures are established so there is consistency and transparency in the process. Below are draft SOPPS for Executive Committee review.

Establishment

- WGs can be established by a Species Management Board or the ISFMP Policy Board.
- Membership should be a limited subset of Board members approved by the Chair of the Board or the Board itself. Ideally, members will represent diverse perspectives on the issue at hand. WGs can request non-Board members to provide information to the WG but will not be members of the WG itself.
- Each WG should have a designated Chair, Commission staff should not be the Chair of the WG. Chairs of the WG do not have to be the Board Chairs.
- The WG Chair will facilitate and lead all WG meetings and conference calls.
- The Board should fully describe the task or issue the work group is to address. There should be a clear directive of deliverables and established timeline to bring issues back for Board for review.
- Membership of a WG should be limited to ensure efficiency.

Purpose

- WGs are established when the Board needs extra time outside of quarterly meetings to work through an issue.
- WGs are not deliberative nor decision-making bodies of the Board. They are intended to explore and present a range of strategies that have the potential to address an issue the Board is trying to address.
- WGs are intended to deliver strategies to address issues for Board deliberation. Approaches the full Board believes have merit would then be fleshed out and analyzed by a technical committee or plan development team for further consideration.

Function

- At the start of each WG meeting the Chair should remind the WG of the task assigned by the Board

- WG meetings and calls will be posted on the Commission web page at least 48 hours before each call. All calls are open to the public unless addressing confidential data.
- WG calls should be used to present ideas and engage in constructive discussion.
- WG members should reach out to other Board members for ideas, and the Board should reach out to WG members if they have ideas or are interested in an update on the progress of the WG.
- WG progress reports will be given to the Board at quarterly meetings by the WG Chair or Commission staff.
- All ideas from the WG should be presented to the Board, as well as key considerations for the Board to take into account.

Plan Development Team Report: Black Sea Bass Commercial Management

Prepared by:

Black Sea Bass Plan Development Team
Caitlin Starks, Chair, ASMFC Staff
Alex Aspinwall, VMRC
Jeff Brust, NJ DEP
John Maniscalco, NYS DEC
Jason McNamee, RI DEM
Julia Beaty, MAFMC
Emily Gilbert, NOAA Fisheries

April 22, 2019

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I. Introduction

The Commission's Summer Flounder, Scup and Black Sea Bass Management 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 2018, the Board reviewed the Working Group report, which identified two main issues: (1) state commercial allocations implemented in 2003 do not reflect the current distribution of the resource, which has expanded significantly north of Hudson Canyon, and (2) federal coastwide quota management can limit harvest opportunities for some states if another state's harvest overage results in a coastwide fishery closure (Appendix A). In February, the Board requested the Plan Development Team (PDT) perform additional analyses and further develop proposed management options related to the issue of state-by-state commercial allocations. The second issue identified by the working group will be addressed in collaboration with the Mid-Atlantic Council (Council) and NOAA Fisheries.

This document presents the analyses and findings of the PDT. For each of the proposed management strategies, the PDT discussed potential variations of the strategy that could be implemented to achieve different management objectives or outcomes. The PDT also highlighted additional considerations the Board should take into account when evaluating these approaches.

II. Potential Management Strategies for Adjusting Commercial Allocations

A. Status Quo

One potential management option is to maintain the current state allocation percentages. The current allocations were originally implemented by the Commission in 2003 as part of Amendment 13, loosely based on historical commercial landings by state from 1980-2001 (Table 1). In a complementary action, the Council adopted an annual coastwide quota system to facilitate the state-by-state quota system adopted by the Commission. Each state sets measures to achieve, but not exceed, their annual state-specific quotas. The annual coastwide quota is implemented and administered by NOAA Fisheries. The fishery is closed when the coastwide quota is projected to be taken, regardless of whether individual states still have unutilized quota.

Table 1. Current black sea bass commercial state-by-state allocations.

State	% Allocation
ME	0.5
NH	0.5
MA	13.0
RI	11.0
CT	1.0
NY	7.0
NJ	20.0
DE	5.0
MD	11.0
VA	20.0
NC	11.0

B. TMGC Approach

The first approach to adjusting the state-by-state allocations discussed by the Black Sea Bass Commercial Working Group, and then the PDT, is a dynamic approach for gradually adjusting state-specific allocations using a combination of resource utilization (historical allocations) and current levels of resource distribution. The alternative 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. Though the approach proposed here for black sea bass differs from the TMGC approach used for Georges Bank, in this document the black sea bass allocation approach will also be referred to as TMGC.

This new strategy sets forth a formulaic approach that balances stability within the fishery, based on historical allocations, with gradual allocation adjustments, based on regional shifts in resource distribution derived from updated stock assessments or surveys. The former recognizes traditional involvement and investment in the development of the fishery since the beginning of black sea bass management, and the latter addresses the changing distribution of the black sea bass resource and the resulting effects within the fishery. Through incremental adjustments over time, the state allocations become less dependent on the historical allocations and more dependent on regional resource distribution.

This option proposes use of the existing state-by-state allocations to reflect initial values for historical participation (resource utilization) and proposes use of the 2016 benchmark stock assessment results (NEFSC 2017) to determine the values for resource distribution; the two values are then integrated in the form of regional allocation shares. An alternative to using the stock assessment would be to use synoptic trawl survey information. Two regions are proposed, as defined in the assessment: (1) ME - NY, (2) NJ - NC. They emanate from the spatial stratification of the stock into subunits that 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 had an important break in this area. The regional allocation shares are then subdivided into state-specific allocations. Appendix B includes a complete description and examples of the TMGC approach retrospectively applied to recent years.

1. TMGC Variations

The TMGC approach affords considerable flexibility, both with regard to initial configuration and application of the allocation formula over time. A key feature involves the use of control rules to guard against abrupt shifts in 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 (e.g., alternative regions to those proposed here);
- the values for historical participation/resource utilization (e.g., current, status quo allocations, or some variant thereof);
- the starting and ending weighting values for resource utilization and resource distribution (e.g. 90:10 to 10:90, or some variant thereof);
- the increment of change in the weighting values per year (10%/year, or some variant thereof;)
- the periodicity of adjustments (e.g., annually vs. biannually);
- the overall time horizon for the transition between starting and ending weights for resource utilization and resource distribution (e.g., 8 years vs. 16 years).
- control rule (e.g., maximum regional allocation change of 3% per year, or some variant thereof)

Of the numerous potential configurations that could be created by adjusting these parameters, the PDT focused on four examples to evaluate potential effects on state-by-state allocations. In these examples, the resource distribution information is derived from the unadjusted regional spawning stock biomass proportions from the 2016 benchmark stock assessment. The other parameters of the formula vary in each example, as follows:

1. The first example represents a configuration resulting in a more liberal change in state allocations. The parameters are set as follows: 2 regions (ME - NY; NJ - NC); resource utilization = 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 resource distribution is 9 years; 10% control rule; regional distribution assumption is based on the spawning stock biomass by region from the assessment for the time period of 2004 - 2012; distribution of adjustments to states within a region based on historic allocations.
    a. Any TMGC configuration could also be modified to distribute the allocation adjustments equally to the states within each region, instead of distributing those adjustments proportionally to the historic state allocations. An example of this modification applied to the above configuration is shown in Figure 2 below.

2. This 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); resource utilization = 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 resource distribution is 12 years; 3% control rule; regional distribution assumption is based on the spawning stock biomass by region from the assessment for the time period of 2004 - 2015; distribution of adjustments to states within a region based on historic allocations.

3. The last 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, some Board members have suggested modifying the "resource utilization" part of the equation to increase the allocations for Connecticut and New York due to their disproportionate allocations compared to their current resource availability. Lastly, the PDT discussed the option of holding Maine and New Hampshire's current allocations static throughout the transition.

    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); resource utilization = 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 resource distribution is 9 years; 10% control rule; regional distribution assumption is based on spawning stock biomass by region from the assessment for the time period of 2004 - 2012, and assumes NJ is consistently 60% of the southern region distribution; distribution of adjustments to states within a region based on historic allocations.

The changes to the state allocations resulting in each of these examples are shown in Figures 1-4. A more detailed description of the methods applied in each example is included in Appendix B. It is important to note that the TMGC approach continually adjusts the state-by-state allocations beyond the time period over which the transition of the weights of resource utilization and resource distribution occurs. These adjustments would be made according to updated regional resource distribution information from either the stock assessment or synoptic trawl survey information as it becomes available, depending on which data source is selected.

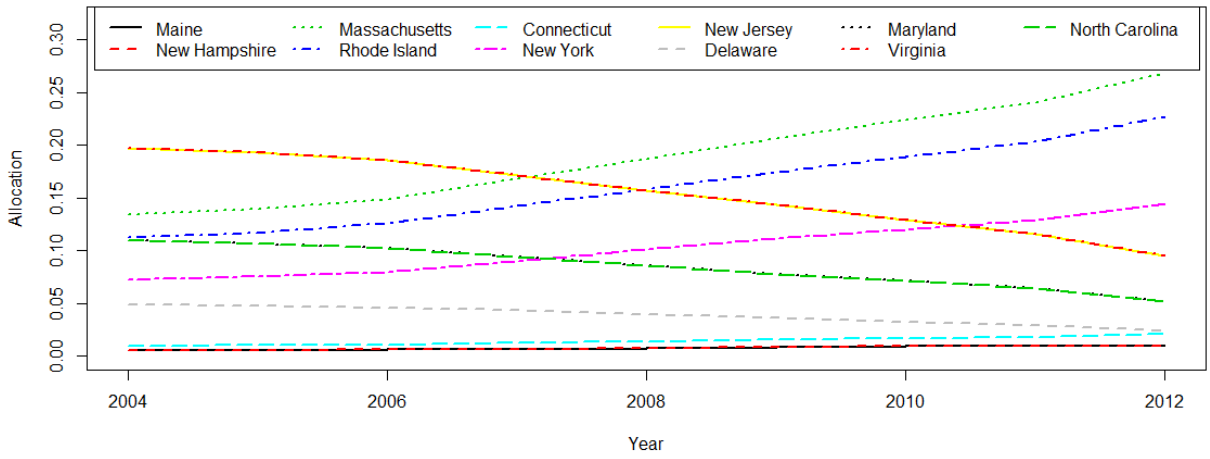

Figure 1. Allocation trajectory for all states under the parameters outlined in example 1 above. The control rule is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

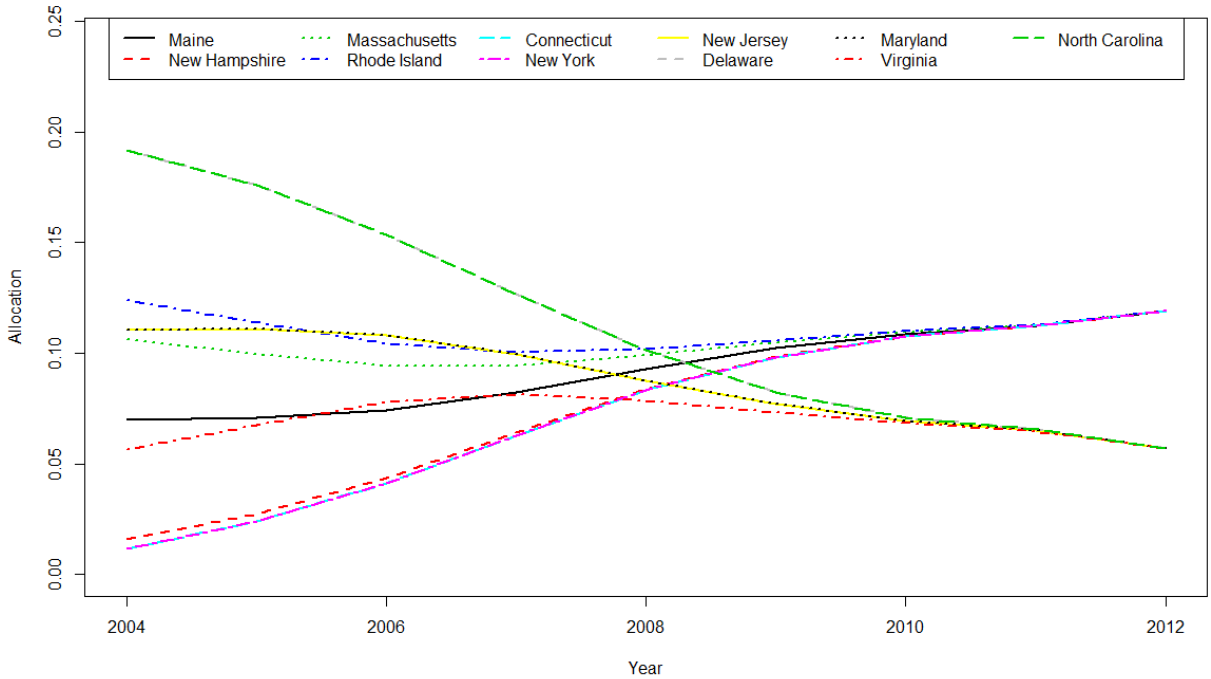

Figure 2. Allocation trajectory for all states under the parameters outlined in example 1a above (equal distribution to the states of regional allocation adjustments). The control rule is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

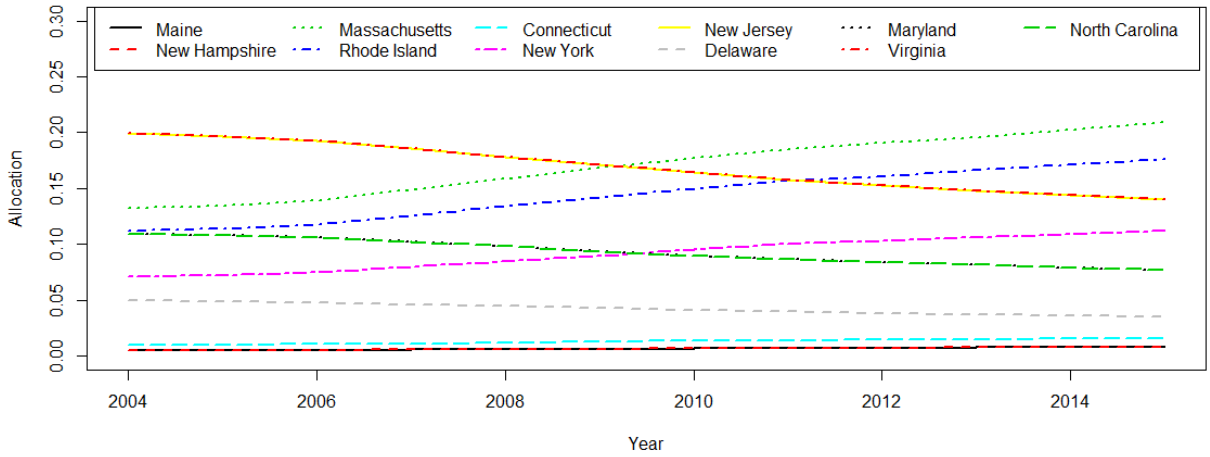

Figure 3. Allocation trajectory for all states under the parameters outlined in example 2 above. The control rule is triggered in each year from 2012 through 2015 in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

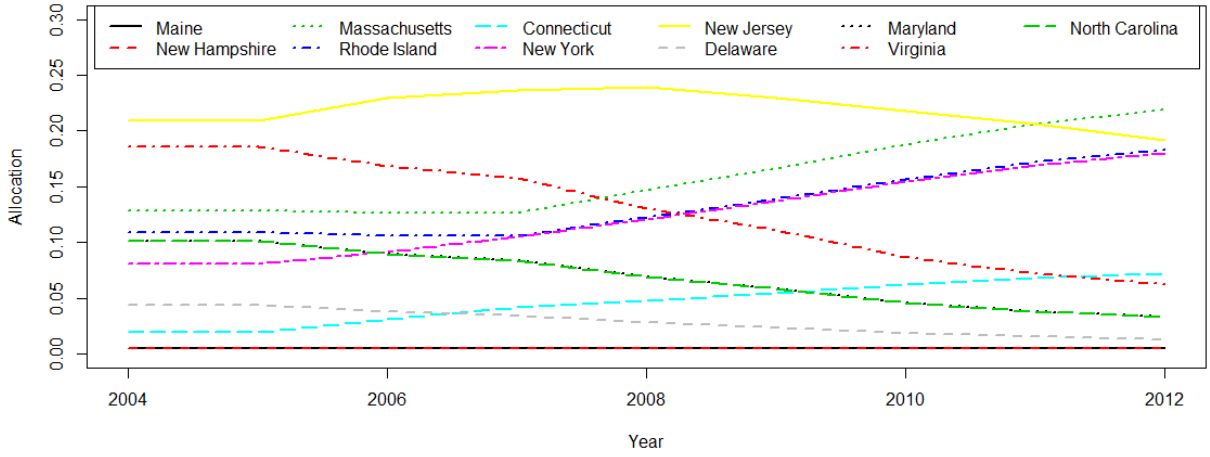

Figure 4. Allocation trajectory for all states under the parameters outlined in example 3 above. The control rule is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

2. TMGC Considerations

There are two options for calculating the resource distribution. The first option is 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 north and south spawning stock biomass values, which can then be turned in to a proportion. The benefit of this approach is the regional biomass values are calculated through a synthesis of many biological parameters and represent the best available science for the population. The drawback is that the assessment is updated periodically (not

every year); thus updated resource distribution could not be produced annually but would depend on the assessment cycle[1]. Additionally, if the spatial stock assessment were to fail at some point in the future, this could impact the ability to implement the dynamic allocation calculations.

As an alternative to using the stock assessment information, values for resource distribution could be obtained and calculated using scientific surveys, with results apportioned into regions. Since surveys are undertaken annually, the values for regional resource distribution could 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 resource distribution. Such shifts may, or may not, follow consistent trends. Accordingly, the technique affords a dynamic approach, consistent with actual changes in resource distribution as defined by the survey information. There are more options with regard to the regional configurations that could be established with this approach, whereas a two-region configuration is the only option with the assessment. The overall 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. Smoothing techniques and the proposed control rule are designed to account for some of this variability and prevent it from causing unreasonable changes in a single year.

C. Trigger Approach

The second approach the PDT discussed is a quota trigger approach. In this approach, a minimum coastwide quota would be established as a trigger for a change in allocations to the states. If the coastwide quota established by NOAA Fisheries in a given year were higher than the established quota trigger, then the quota would be distributed to the states in two steps: 1) the amount of coastwide quota up to and including the trigger is distributed to the states according to the current state-by-state allocations, as set forth in Amendment 13 in 2003; and 2) the amount of quota exceeding the established trigger is distributed equally to the states of Massachusetts through North Carolina, with Maine and New Hampshire receiving a smaller percentage 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 current state-by-state allocations. This method limits fishery disruption by guaranteeing states some minimum level of quota based upon the 2003 allocations.

Two potential quota trigger options have been proposed: 3 million pounds, or 4 million pounds. The 3 million pound trigger represents approximately the average coastwide commercial quota from 2003 through 2018. Years in which specifications were set using a constant catch approach were excluded from the average (i.e., 2010-2015). Commercial quotas remained essentially the same from 2010 until 2013 when there was a slight change in the coast-wide quota established by the SSC in 2013 however, that was merely an extension of the constant catch that extended until 2016. The average commercial quota from 2003 through 2018 is 3.12 million pounds.

The 4 million pound trigger represents approximately the highest commercial quota from 2003 through 2017. The highest commercial quota was 4.12 million pounds in 2017. A 3 million pound trigger is lower than 10 out of the last 13 years (2008-2019) of coastwide commercial quotas established by the

[1] The Northeast Region Coordinating Council approved an assessment prioritization process and management assessment track schedule in November 2018 that would provide management assessments for black sea bass every two years. Following the upcoming operational assessment, the next assessment would be available in 2021, with information available for management in 2022-2023.

National Marine Fisheries Service. A 4 million pound trigger is higher than all but one year of coastwide commercial quotas in the last 13 years (Figure 5). Table 2 shows an example of the quota trigger approach using a 3 million pound trigger and the 2017 coastwide quota of 4.12 million pounds. Additional quota trigger examples are provided in Appendix C.

Figure 5. Commercial BSB Quota over Time Compared to 3M Pound and 4M Pound Triggers

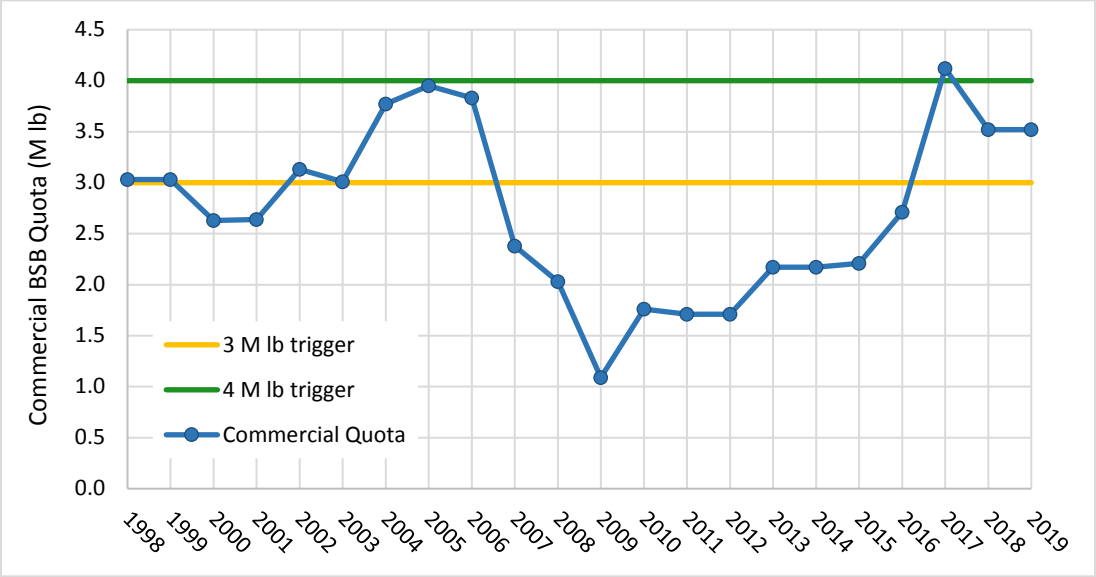

Table 2. Reallocation of black sea bass commercial quota above a 3 million pound trigger, based on the 2017 coastwide quota of 4.12 million pounds.

3 Million Pound Trigger					
State	**Current allocation (%) of quotas up to and including 3 million lbs**	**Status Quo distribution of first 3 million lbs of quota**	**Allocation (%) of additional quota beyond 3 million lb**	**Example state allocations (lbs) under a 4.12 million lb quota**	**Example state allocations (%) under a 4.12 million lb quota**
ME	0.5%	15,000	1.00%	26,200	0.64%
NH	0.5%	15,000	1.00%	26,200	0.64%
MA	13.0%	390,000	10.89%	511,956	12.43%
RI	11.0%	330,000	10.89%	451,956	10.97%
CT	1.0%	30,000	10.89%	151,956	3.69%
NY	7.0%	210,000	10.89%	331,956	8.06%
NJ	20.0%	600,000	10.89%	721,956	17.52%
DE	5.0%	150,000	10.89%	271,956	6.60%
MD	11.0%	330,000	10.89%	451,956	10.97%
VA	20.0%	600,000	10.89%	721,956	17.52%
NC	11.0%	330,000	10.89%	451,956	10.97%
Total	**100.0%**	**3,000,000**	**100%**	**4,120,000**	**100.00%**

1. Trigger Approach Variations

The PDT noted that the initial trigger approach proposals do not directly address the first problem identified in the Working Group's Report: the distribution of biomass has changed significantly since the state allocations were established in 2003, and the allocations do not reflect these changes. Changes in biomass distribution are supported by the 2016 stock assessment and peer reviewed literature.

To better address these changes within a trigger approach, the PDT discussed a modification that would distribute quota above the trigger based upon the proportion of coastwide biomass in each region, as informed either by the assessment models or fishery independent survey data. Fishery independent survey data may be required if the benchmark assessment regional model framework cannot produce valid regional results after inclusion of the updated MRIP estimates. The terminal year of the assessment can be used if retrospective bias adjustments to the assessment outputs of SSB are required, or the last three years of the assessment can be averaged if no adjustment is necessary. Tables 3-4 in Appendix C show examples of allocation above the trigger based on regional biomass, using the Rho adjusted regional model outputs from the terminal year of the 2016 benchmark assessment (2015). It should be noted that if this approach were selected, the Board would need to specify which regional biomass values to use. In the event that regional assessment outputs cannot or should not be used, a method to use fishery independent survey data must be developed – preferably one that utilizes a multi-year average or a smoothing approach (for instance, the approach described in the TMGC methods in Appendix B). The regional proportions used to distribute quota above the trigger should be updated every time appropriate new data is available.

Within the regions, quota above the trigger can also be distributed to individual states in different ways. One approach is to distribute quota above the trigger in equal shares to all states within the region (ME and NH receive a flat 1% of this additional quota from the northern region pool; this could be modified if they express increased interest in participating in the fishery) (Table 3, Appendix C). A second method would be to distribute quota above the trigger to all states within the region in proportion to their 2003 allocations (Table 4, Appendix C).

2. Trigger Approach Considerations

If a trigger-based approach is of interest, the Board would need to consider the most appropriate configuration based on the objective of reallocating black sea bass commercial quota. First, a quota trigger should be selected based on the amount of quota the Board feels should be distributed under the current allocations, versus the amount of quota that should be made available to the states using an alternative allocation scheme. The Board should also choose an allocation method for quota above the trigger that best addresses the issues facing the fishery (i.e. equal distribution of additional quota or distribution based on regional resource availability).

While the trigger approach as proposed establishes a hard quota of three or four million pounds, the PDT discussed the possibility of using a soft trigger, which would allocate a percentage of the quota using historical allocation, rather than a set number of pounds. Fluctuations in annual quota values would result in similar fluctuations in the poundage being allocated using historical values. For example, if a trigger is set at 50% of the quota, the historical allocations would apply to two million pounds of a 4 million pound quota, and 3 million pounds of a 6 million pound quota. Using a hard trigger, if the annual coastwide quota is below the trigger, then the full quota is allocated using the historic allocations. With

a soft trigger, lower quotas would still allow some portion of the quota to be allocated using a distribution other than the historic allocations.

The PDT has explored several options for potential quota triggers, and allocation schemes for additional quota above the trigger. However, the Board may wish to consider alternative trigger levels or allocation schemes that are deemed more appropriate. Additionally, the size of the population and subsequent quota amounts may change due to the 2019 operational assessment for black sea bass. This should also be considered before selecting a trigger value if this method is eventually adopted.

D. Auctioned Seasonal Quota

The Auctioned Seasonal Quota (ASQ) approach was proposed by a Board member in February 2019. The proposed management strategy is to annually auction off part of the total commercial allocation under an ASQ. While all of the allocation could be auctioned, that would be disruptive to the current fishery, so it was proposed that this strategy could be applied only to 10-20% of the coastwide quota. The portion of the quota to be auctioned would be divided into auction blocks (e.g. 2,000 pounds, 5,000 pounds) by the agency charged with holding the auction. The proposal suggests the auction should be open to all fishers in the black sea bass management unit with the required federal and/or state permits. Rules could be set to limit the number of blocks that any one permittee can acquire. High bidders would be awarded the auction blocks. The proposal also indicated that auction funds received by the administrating agency should be used to administer and enforce the auction.

The rationale presented by the Board member who proposed the ASQ strategy is that it responds to several problems with the current quota allocation method:

- Quota allocated among states loosely based on landings from 1980-2001, so more recent shifts in black sea bass distribution are not reflected in state allocations.
- Quota allocation among states is a 'zero-sum game' – one state can only increase its allocation if another state(s) decreases its allocation.
- States have treated their allocations as permanent property and each state has stakeholders that depend on getting their share of the allocation, making it difficult for a state to agree to a reallocation plan that does not provide its stakeholders the same benefit.
- In three states, quota is allocated to individual permittees through Individual Transferable Quotas (ITQ). Participants in the fishery at the time the state allocations were established were grandfathered into the fishery and received ITQ. The distribution of ITQ makes it difficult for new participant to enter the fishery.

1. ASQ Considerations

a) Administration

The PDT discussed a number of considerations regarding administration of an ASQ program. For one, the group noted that because the auction would be open to harvesters from all states in the management unit, such a program could not be administered at the state level. Thus, either NOAA Fisheries or the Commission would need to manage the program.

Administering an ASQ program would pose numerous challenges for both bodies. From GARFO's perspective, initial concerns include the following:

- The limited access privilege program (LAPP) provisions of Magnuson-Stevens Fishery Conservation and Management Act (MSA) allow for auctions to establish allocations. GARFO has significant concerns about the resource and staffing needs it would take to host and monitor such an auction.
- The MSA allows funds from these auctions to be deposited into a Limited Access System Administration fund and would require a cost recovery fee (up to 3% of ex-vessel value of fish harvested) that would be applied to the costs of management, data collection, analysis, and enforcement activities related to this program. However, NOAA Fisheries would not be able to transfer this money to state agencies or state law enforcement to assist with monitoring and enforcing the program.
- GARFO is only able to establish this type of program for Federal moratorium permit holders, which would place state-only permitted vessels at a disadvantage. GARFO is unable to monitor vessel-specific landings for state-only permitted vessels. If the entire quota were eventually moved to an ASQ system, this would prevent state-only vessels from fishing for black sea bass. Even if a transfer program were to be developed that allowed state-only permitted vessels to lease in quota, GARFO would not be able to monitor that quota.
- Any ASQ or Individual Fishing Quota (IFQ) program requires very robust monitoring and reporting, and GARFO believes the current system in place for black sea bass is inadequate to support an ASQ system. Other similar IFQ/ITQ fisheries in the region and country require systems such as vessel monitoring systems and pre-landing reporting for effective monitoring.
- Having part of the quota be allocated coastwide and part of it available for auction is also problematic:
    - Without a more robust system to track individual allocations at a vessel level, it would be difficult to track which landings should be counted against the coastwide quota and which should count against the ASQ.
    - It has not yet been specified how vessels could use this additional quota. For example, would they use the purchased quota only if the coastwide quota was harvested and Federal waters were closed? If so, what if the coastwide fishery does not close? Or would the additional quota allow for increased possession limits for certain individuals? This would be very difficult to monitor and enforce.
    - Past experiences with the research set-aside quota auction system demonstrated that it can be very difficult to effectively monitor and enforce additional allocated landings beyond a coastwide/state-managed quota.
- Though the term ASQ implies that there are seasonal quotas, GARFO assumes the intent is to hold one auction per year. If the intent were to have multiple seasonal auctions, this increases the complexity and concerns mentioned above.

There is also uncertainty regarding the Commission's ability to administer an ASQ program. The Commission has concerns about the resource and staffing needs required to host and monitor such an auction. Currently, the Commission does not have a staff member that would be able to take on this role. In addition, the Commission does not have experience in administering ASQ or IFQ/ITQ systems; therefore a significant amount of staff time would be needed to determine the details of administering an auction. Based on past experiences, a quota auction system would likely be very difficult to monitor and enforce, therefore the Commission would need to determine if it would be possible to administer such a program with its current resources and authority.

b) Data Concerns

It has been suggested that commercial fishery efficiency may increase under the ASQ approach because the fishermen/vessels with the lowest operating costs relative to potential revenues may be most willing to purchase additional quota. The PDT noted that potential changes in fishery efficiency will be difficult to analyze based on available economic data and given that a variety of factors will likely influence fishermen's decisions regarding purchasing additional quota.

The PDT noted that some states may be better positioned to take advantage of additional black sea bass quota than others, depending on the scale of the increase in quota. For example, states with higher numbers of Federal black sea bass moratorium permits may be better able to utilize additional quota than states with lower numbers of moratorium permits. However, given the high demand for black sea bass and the high ex-vessel price compared to many other species (averaging $3.05 per pound in 2017), even states with lower numbers of permits may fully harvest additional quota. The PDT reviewed preliminary data on the number of federal moratorium permits issued each year from 1997 through 2017, as shown in Figure 6 below. The PDT cautioned that this analysis does not account for state-only permitted vessels, and some states may have robust fisheries in state waters.

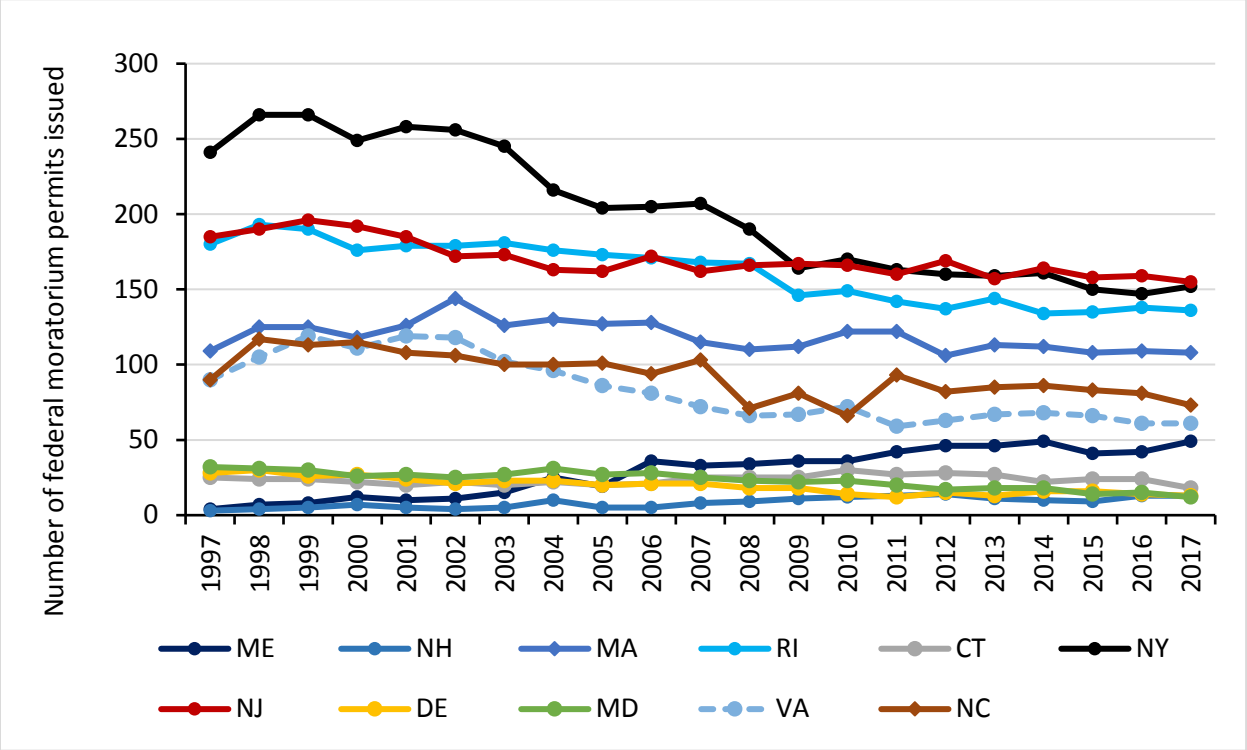

Figure 6. Number of vessels issued Federal moratorium black sea bass permits issued by state and year, 1997-2017. State is defined as the home port of the permitted vessel. Values should be considered approximate as they do not account for mid-year permit transfers and, as a result, may indicate higher numbers of moratorium permits than actually exist in a given year. Vessels in confirmation of permit history (i.e., eligible for a permit, but not issued a permit in a given year) are not accounted for.

c) Impacts of an ASQ Approach

As mentioned above, impacts of the ASQ approach to the black sea bass commercial fishery are inherently difficult to predict. The resulting quota distribution would be dependent on a number of

factors, which could be related to economic forces as well as changes in the stock and the fishery. If the auction were to occur annually, there could be significant differences in the resulting ASQ allocations from year to year. Without reliable economic information on individual operations, it is difficult to estimate potential outcomes of this approach.

Some theoretical positive impacts that have been suggested are that an ASQ program could increase efficiency in the fishery, as top bidders would likely be those best able to catch the quota, and that it could provide more flexibility in allocation. Some possible negative impacts are: 1) it could allow for concentration of quota among those with more financial resources and/or larger operations which could disrupt the economies of many fishing communities; 2) states may want to consider an ITQ 'buy back' to compensate current ITQ holders, as ITQ has been a dependable source of income for these participants; 3) it would disadvantage state-only permitted vessels who would not be able to participate in an auction managed at the Federal level; and 4) increased complications of monitoring and enforcing such a program could result in compliance issues and exceeding the commercial quota without a clear way to pinpoint responsibility for the overage.

Considering the uncertainty and administrative concerns surrounding the ASQ approach, the PDT recommends careful consideration of this strategy. If the Board were interested in further developing the ASQ approach, the PDT feels it would have to focus *solely* on this approach, as adequately developing it will require an all-encompassing effort, and could not be done in parallel with multiple other options. It should also be noted that implementation of an ASQ program would require a joint amendment with the Council.

E. Hybrid Approaches

In addition to the individual methods presented above, the PDT discussed hybrid approaches where the coastwide quota is allocated among the states using two or more methods. This could essentially be an extension of the trigger approach (a portion of the quota, either a fixed amount or a percentage, up to the trigger value is distributed using historic allocation, and any remaining quota is distributed using equal allocation or biomass distribution), but could incorporate other options as the Board wishes. Use of a hybrid approach may offer flexibility and compromise for different perspectives, but at the cost of increased complexity. For example, a hybrid approach that incorporates a trigger, equal allocation, and regional allocation could be developed that assigns a portion of the coastwide quota using historic allocation to account for existing markets and fishing communities, a portion distributed equally to each state, and a portion to each region based on biomass distribution. Considerations and decision points for any hybrid approach would include all the considerations and decision points of each of the individual methods being combined. Additionally, depending on how a hybrid approach is developed, the drivers behind allocation adjustments could become unclear and difficult to track. Consideration of transparency is needed if selecting a hybrid approach, and additional work by the PDT may be required to clearly identify the impacts of each element of the approach.

III. Discussion

Throughout their discussions of each management strategy described above, the PDT highlighted a number of decision points the Board may need to consider in selecting the appropriate management

programs for continued development. To come to a decision on some of these issues, it may be helpful to first define the Board's intention in considering changes to the black sea bass state-by-state allocations. Agreeing on a clear intention may guide the Board in focusing on the management strategies that best align with the objectives the Board seeks to meet.

Thus, the first general decision point would be to determine what the Board's goals are with regard to considering reallocation of the state-by-state commercial quotas. The key issue identified by the Commercial Working Group is that state commercial allocations implemented in 2003 do not reflect the current distribution of the resource. If the Board's goal is to address this issue by adjusting state-by-state commercial allocations to be more reflective of the current distribution of the resource, then the Board may want to focus on those strategies that incorporate regional information on resource distribution. If the Board's primary goal is to maintain historic access to the fishery, then it could consider options that place more weight on historic landings.

When considering approaches that address changes in resource distribution, another decision point arises in both the TMGC approach and the modified trigger approach: how to distribute quota to states within regions. Two general methods were discussed: equal distribution of regional quota, or distribution based on historic allocation. Though the PDT did not explore additional methods, it may be appropriate to consider distributing quota to states within the regions in a different way, depending on the purpose of reallocation. For example, if the Board aims to create more equality within the regions with regard to state quotas, then equal allocations of additional quota to the states in each region may be more appropriate (see TMGC Example 1a, and trigger Table 3, Appendix C). Alternatively, if the Board aims to maintain state access based on historic landings, it may be preferable to distribute quota to the states within each region based on their current allocations (see TMGC Examples 1 and 2, and trigger Table 4, Appendix C). Some compromises between these two goals could be addressed through a hybrid approach.

As mentioned in the considerations for the TMGC and modified trigger approaches, the ability to use regional biomass information from the stock assessment may change. It is uncertain whether incorporation of the new MRIP data will still produce biomass estimates for the northern and southern stock subareas. If not, it may be necessary to use survey information to do any resource distribution based approach. The Board should consider the implications of using either source of information to adjust allocations according to regional biomass. If regional biomass information from the stock assessment is available, the Board may need technical guidance on the most appropriate method for calculating regional proportions.

Another decision point the PDT discussed is regional configuration. In particular the group focused on how to incorporate Maine and New Hampshire, considering their historically low participation in the fishery, and how to incorporate New Jersey, as its geographic location adjacent to Hudson Canyon makes it difficult to place it in either the northern or southern spatial subarea of the stock. The PDT analyzed options that maintain static or proportionally lower allocations for Maine and New Hampshire, but these could be modified if the states were to express an interest in increased participation. The PDT also discussed potential methods for treating New Jersey as a stand-alone region, if deemed more

appropriate than including it in the Southern Region. If a regional approach is taken, the Board should determine the most appropriate regional configuration.

The PDT also discussed the issue of stability in state commercial allocations. In prior discussions at the Working Group and Board level, some states expressed concerns about abrupt allocation changes that could disrupt the fishery. To better understand what constitutes abrupt change in order to avoid such disruptions, it may be helpful to define minimum quotas, or the maximum percent change per year with which the states would be comfortable. For comparison, Table 3 shows the coastwide quotas, and magnitude of change in quotas from year to year since 2003. On average, the coastwide quotas (and therefore the state quotas) have changed by 22% per year, excluding years where the constant catch approach was applied. It is important to bear in mind that state-by-state and coastwide quotas will continue to vary depending on the status of the stock, regardless of whether state-by-state allocations are modified.

Lastly, the PDT noted it could be important to establish a better understanding of where the fishery is occurring, and whether that has changed over time. Due to time limitations, the PDT was only able to analyze estimated commercial landings by state, year, and statistical area provided by the ACCSP. Preliminary results of this analysis are provided in Appendix D. If desired, the Board may request additional analysis of spatial data on black sea bass landings and or trips.

Table 3. Magnitude of annual change in black sea bass commercial quotas.

Year	Coastwide Quota (pounds)	% Change from Previous Year (absolute value)
2003	3,024,545	-
2004	3,768,575	25%
2005	3,966,345	5%
2006	3,832,312	3%
2007	2,385,390	38%
2008	2,025,763	15%
2009	1,093,190	46%
2010	1,758,610	61%
2011	1,711,080	3%
2012	1,710,000	0%
2013	2,174,312	27%
2014	2,174,312	0%
2015	2,212,923	2%
2016	2,702,867	22%
2017	4,120,000	52%
2018	3,520,000	15%
2019	3,520,000	0%
Average (excl. constant catch years)**		**22%**
Average (2016-2019)		**22%**

* Final adjusted quota after RSA

**Constant catch approach was used from 2010 to 2015

Appendix A. Black Sea Bass Commercial Working Group Report, February 2019

Working Group Members: David Borden (Chair, RI), Nichola Meserve (MA), Matthew Gates (CT), Joe Cimino (NJ), Rob O'Reilly (VA)

ASMFC Staff: Caitlin Starks, Toni Kerns

Additional Attendees: Julia Beaty (MAFMC), Greg Wojcik (CT), Jason McNamee (RI), Tiffany Vidal (MA)

Statement of the Problem

The working group has identified two problems associated with the current FMP. First, the commercial black sea bass allocations to the states 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 15 years. Meanwhile, the resource has experienced shifts in distribution and abundance, and changes in fishing effort and fishing behaviors have occurred.

There is scientific information to support these shifts. For example, according to the last black sea bass stock assessment, which modeled fish north and south of Hudson Canyon separately, the majority of the stock occurred in the south prior to the mid-2000s. Since then the biomass in the north has grown considerably and currently accounts for the majority of spawning stock biomass (Figure 1). While the region specific models created for the assessment were never intended to be stand-alone, this shift in black sea biomass distribution has been supported by peer reviewed journal articles (e.g., Bell et al., 2015).

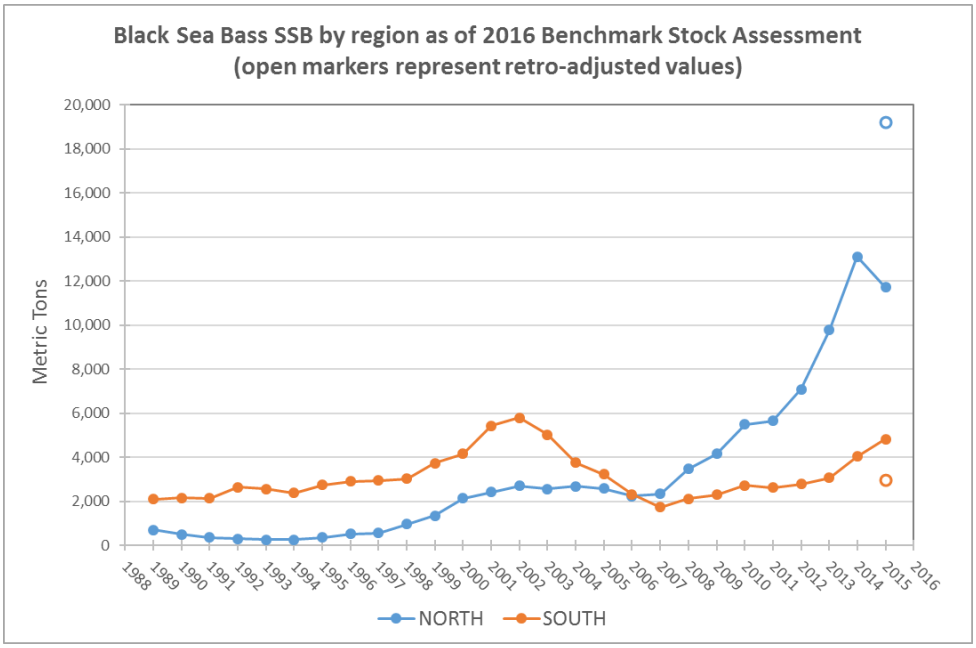

Figure 1: Black Sea Bass SSB by Region, 1989-2016. Source: 2016 Black Sea Bass Stock Assessment.

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 was only allocated 1% of the coastwide commercial quota based on landings from 1980-2001.

Any consideration of management changes by the Commission should be responsive to shifts in in black sea bass distribution, abundance, behavior, fishing effort and harvest by gear type. However, there are many additional factors requiring rigorous discussion and evaluation should reallocation be considered. Changes in allocations should take into account the following considerations and issues:

1. Allocations should be reviewed and revised on a regular basis to ensure equity of access and improve fishery efficiency (human safety, fuel use, and discards), using the latest and most appropriate data sources.
2. Changes in allocations should be linked to stock assessments to the extent practicable, or use other peer reviewed data sources. If such sources are unavailable, other scientific information such as state and federal survey indices could be used.
3. The relatively recent shift in spawning stock biomass does not mean that future abundance dynamics will proceed in the same manner, especially since a strong or weak year-class can provide an increase or decrease in abundance throughout the range or a portion of the range.
4. For states where resource availability has shifted significantly in recent years, the current allocations may provide either a disproportionate advantage or disadvantage if used as the basis for allocation adjustments (e.g. Connecticut's 1% allocation). Small changes to the original allocations may not reflect resource abundance, thus, adjustments may need to be made using a formula other than a simple percent change.
5. Participants in different areas have invested in the commercial fishery based on historic landing patterns as well as state management programs. For example, some mid-Atlantic states have adopted management through Individual Transferrable Quotas (ITQs), and the industry has invested in these fishing rights and infrastructure. To avoid unnecessary economic hardships and enhance the ability of the industry to respond and make long term business decisions, slow or gradual implementation of allocation changes should be considered.
6. Due to the high abundance relative to current allocations in the northern area, some states have lengthy closures that promote discards. Any reallocation formula should consider these factors and attempt to reduce closures and discards.
7. Review and reevaluation of commercial quota allocations should not occur in a vacuum and should take into account changes in recreational information. In particular, new recreational harvest estimates should be incorporated into the stock assessment before commercial changes are adopted.

A second problem relates to the provision in the FMP that prescribes a coastwide black sea bass quota managed by NOAA Fisheries. Under the current regulations, all states in the management unit are subject to fishery closures if a coastwide quota overage occurs, despite state-by-state quota management by the ASMFC. These closures can leave states with remaining commercial quota, especially ITQ, unable to utilize their full allocation of the resource. Management should aim to reduce impacts of state-specific commercial quota overages to other states. The working group recommends that the Mid-Atlantic Council consider actions to address this issue. For example, the working group

suggested the Council consider allowing conservation equivalency for the commercial fishery, similar to what is allowed for recreational black sea bass and summer flounder.

Objectives and Goals to Address the Problem

The WG identified the following as management objectives for commercial black sea bass:

- Ensure fishing mortality and spawning stock biomass are maintained within established thresholds and targets, and the stock is not overfished nor experiencing overfishing
- Improve equity in access to the fishery among the states
- Improve fishery efficiency (e.g. use of time, fuel and other resources; reducing discards)

The WG discussed the need to determine what metric(s) would be used to evaluate equity in access to the fishery. Some ideas discussed were socioeconomic benefits or opportunities, as well as resource availability related to the distribution of exploitable biomass and abundance. The WG noted discard reductions and increased efficiency would likely result from allocations based on more current information on the resource's distribution along the coast. However it was noted that fishery efficiency may also be impacted by factors other than resource allocation (e.g., allowances to possess multiple states' limits in the same trip).

The WG proposed the following information, particularly for recent years, should guide further development of management objectives and strategies.

- Descriptions of each state's fishery including but not limited to: management program, participation, effort, landings by gear, distribution of landings and trips, commercial size distribution, and socioeconomic information
- A comprehensive review of survey data for black sea bass to inform understanding of stock biomass/abundance distribution and availability to state commercial fisheries
- Current scientific information on the geographic shifts in black sea bass biomass

Potential Management Strategies

The WG agreed a wide range of options should be considered, and that some management strategies may require coordination with the Mid-Atlantic Fishery Management Council. Some of the ideas the WG supported exploring further included:

1. Adjustments to the state-by-state allocations. Potential options include:
    a. Status quo
    b. Dynamic approach modeled after the Transboundary Management Guidance Committee (TMGC) approach (Appendix I)
2. Defined timeline or trigger for reevaluation of allocations
    a. Future consideration of a strategy similar to the scup model to increase equitability in access for federal vessels (i.e. winter coastwide quota management and summer state-by-state quota management) (Appendix II)

As indicated in the problem statement, consideration should be given to how management approaches may impact fishery stakeholders in each region, and efforts made to balance negative economic impacts with enhanced equity and efficiency of the fishery along the coast.

Appendix B. TMGC Approach

Proposed New Allocation Alternative For Black Sea Bass: Dynamic Transboundary Approach

Black Sea Bass PDT

22 April 2019

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 resource utilization (historical allocations) and current levels of resource 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 resource 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 control rules 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 resource 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 resource utilization) and proposes use of the 2016 benchmark stock assessment results(NEFSC 2017) to determine the values for resource 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 (e.g., other regions beyond those proposed here);
- the values for historical participation/resource utilization (e.g., current, status quo allocations, or some variant thereof);
- the percentage weighting values for Resource Utilization and Resource 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;
- the periodicity of adjustments (e.g., annually vs. biannually); and
- the overall time horizon for the transition (e.g., 9 years vs. 18 years).

The control rule can also be evaluated via two or more sub-alternatives (e.g., a cap that's higher or lower than 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 resource 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 resource distribution by year; $\alpha_y + \beta_y = 100\%$; $StateSpecAlloc$ = state specific allocation; $ResDistr$ = resource distribution; r = region; y = year

Proposed regions:
Two regions are proposed: (1) ME - NY, (2) NJ - NC.

Proposed values for historical participation/resource utilization:
See Resource Utilization section below.

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

Proposed percentage weighting values for resource utilization and resource distribution:
The initial sharing formula is proposed to be based on the weighting of resource utilization (from historical allocations) by 90% and the weighting of resource distribution by 10%. Additional alternatives are prtesented 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

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:

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

Where $Allocation_s$ = the specific state being calculated

Resource Utilization

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 resource utilization 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 resource utilization 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.

Resource Distribution

This proposal offers two options for calculating the resource 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 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 benchmark assessment would be 6,800 MT (January 1 biomass) in the south, 17,000 MT (January 1 biomass) in the north, equating to 29% of the biomass in the south and 71% of the biomass in the north (NEFSC 2017). It is important to note that these are the unadjusted 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 resource distribution can be obtained and calculated using scientific surveys, with results apportioned into regions. Since surveys are undertaken annually, the values for resource 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 resource distribution. Such shifts may, or may not, follow consistent trends. Accordingly, the technique affords a dynamic approach, consistent with actual changes in resource 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 resource 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.

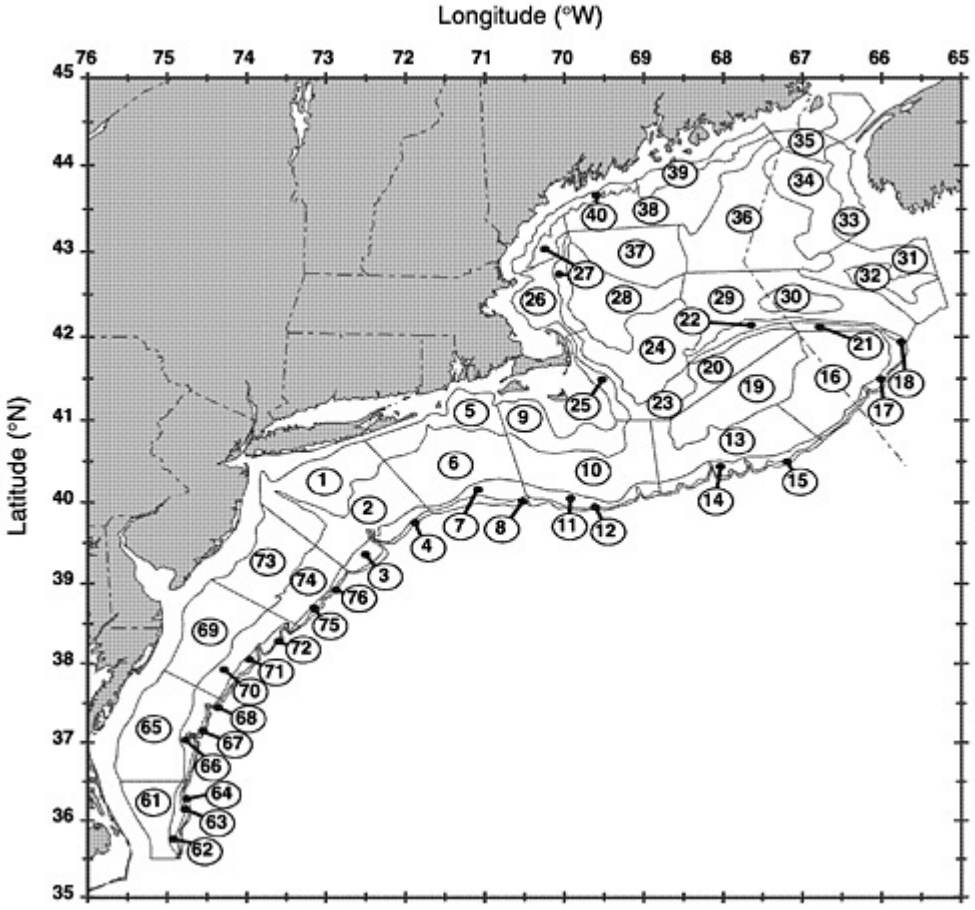

Figure 1: Map of National Marine Fisheries Service trawl survey strata.

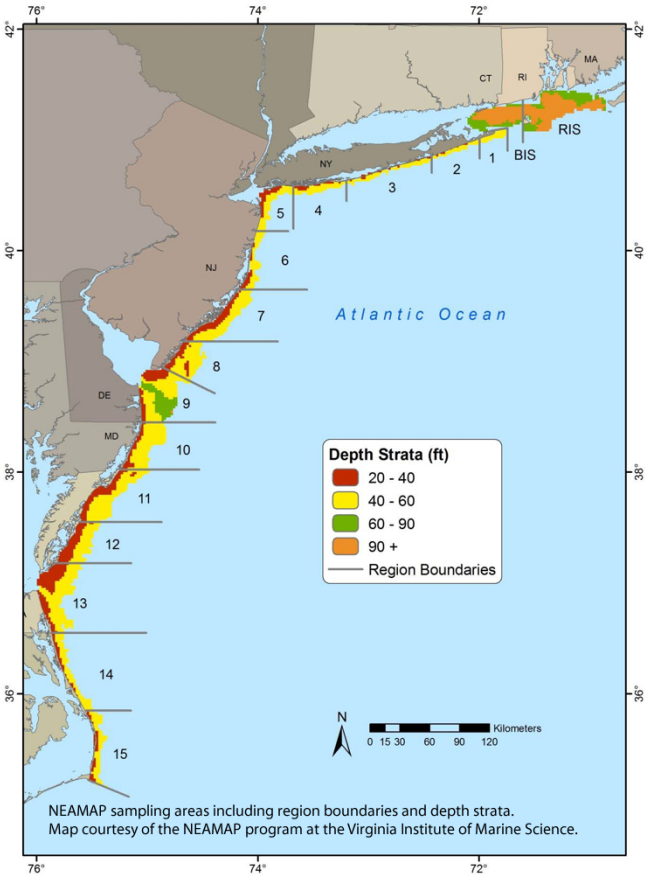

Figure 2: Map of North East Area Monitoring and Assessment Program trawl survey strata.

Table 1 - Strata or Region assigned to each region for resource 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. Resource 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 resource utilization (90% weighting in year 1) and the most recent resource 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 control rule 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 resource 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.

Control Rule

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 a control rule. Such measures would enable various checks and balances to be incorporated into the process to guard against unintended consequences.

One such control rule, 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 at 10%. This can be shown as:

$$\%RegionalShare = \begin{cases} 10\%, & \text{if } \Delta AnnualChange > 10\% \\ \%RegionalShare, & \text{if } \Delta AnnualChange \leq 10\% \end{cases} \quad (1)$$

The effect would be to ensure that any changes to allocations occur incrementally, even in a case of large shifts in resource distribution in any given year or period. This control rule 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 time horizon for the transition can be changed;
- The initial state allocations can be set at status quo, or shifted to accommodate various objectives; and
- The control rule 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 2020, 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 resource distribution values for each of the two regions. Using those parameters, and a weighting of allocations by 90% and resource distribution by 10%, enact new, slightly revised state-specific allocations for 2020. If the Board and Council opted for a transitional program involving 10% annual increments, until the weightings reached 10% utilization from historical allocations and 90% resource distribution, this sharing formula would transition from a 90:10 resource utilization-to-resource distribution weighting in 2020 to a 10:90 weighting by 2028. During every transitional period, the trawl survey information would be updated and factored into the resource 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 Resource Distribution values.
- Step 1: Apply the state-specific allocations and resource 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 Resource Distribution information to equation 1.
  - Strawman values:

```
dist.reg1 = 0.71
dist.reg2 = 0.29
```

- Step 3: Select α and β parameters for equation 1 for year 1:
  - The initial sharing formula is proposed to be based on the weighting of resource utilization (from historical allocations) by 90% and the weighting of resource 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] 0.368
```

```
# Region 2 equation and result
Reg2.Share = (alpha*sum.reg2) + (beta*dist.reg2)
Reg2.Share
```

```
## [1] 0.632
```

  - This does not account for any change to the original allocations, see step 6 below.

- Step 5: Determine need to apply the control rule

```
# Control Rule
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 control rule 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, 5, and 6; Figures 3, 4, 5, and 6).

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); resource utilization = 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 resource distribution is 9 years; 10% control rule;

distribution assumption is based on the biomass by region from the assessment for the time period of 2004 - 2012; distribution of adjustments to states within a region are based on historic allocations.

Example 2: Any TMGC configuration could also be modified to distribute the allocation adjustments equally to the states within each region, instead of distributing those adjustments proportionally to the historic state allocations. This example represents a configuration resulting in more liberal change in state allocations as noted in example 1. The parameters are set as follows: 2 regions (ME - NY; NJ - NC); resource utilization = equal allocations to each state within the region; 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 resource distribution is 9 years; 10% control rule; distribution assumption is based on the biomass by region from the assessment for the time period of 2004 - 2012; distribution of adjustments to states within a region are based equal distribution.

Example 3: The third 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); resource utilization = 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 resource distribution is 12 years; 3% control rule; distribution assumption is based on the biomass by region from the assessment for the time period of 2004 - 2015; distribution of adjustments to states within a region are based on historic allocations.

Example 4: 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, some Board members have suggested modifying the "resource utilization" part of the equation to increase the allocations for Connecticut and New York due to their allocations being disproportionate to their current resource availability. 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); resource utilization = 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 resource distribution is 9 years; 10% control rule; distribution assumption is based on the biomass by region from the assessment for the time period of 2004 - 2012, and assumes NJ is consistently 60% of the southern region distribution; distribution of adjustments to states within a region are based on historic 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 Resource Utilization having the highest weight in the equation to Resource Distribution having the highest weight during a period of time where the biomass was rapidly changing.

Table 3 - Allocation trajectory for all states under the parameters outlined in example 1 above. The control rule 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	0.006	0.006	0.007	0.008	0.009	0.009	0.010
New Hampshire	0.005	0.005	0.006	0.006	0.007	0.008	0.009	0.009	0.010
Massachusetts	0.134	0.139	0.149	0.168	0.187	0.206	0.224	0.240	0.268
Rhode Island	0.113	0.117	0.126	0.142	0.158	0.174	0.189	0.203	0.227
Connecticut	0.010	0.011	0.011	0.013	0.014	0.016	0.017	0.018	0.021
New York	0.072	0.075	0.080	0.090	0.101	0.111	0.120	0.129	0.144
New Jersey	0.197	0.193	0.186	0.171	0.157	0.143	0.129	0.116	0.095
Delaware	0.049	0.048	0.046	0.043	0.039	0.036	0.032	0.029	0.024
Maryland	0.109	0.106	0.102	0.094	0.086	0.078	0.071	0.064	0.052
Virginia	0.197	0.193	0.186	0.171	0.157	0.143	0.129	0.116	0.095
North Carolina	0.109	0.106	0.102	0.094	0.086	0.078	0.071	0.064	0.052

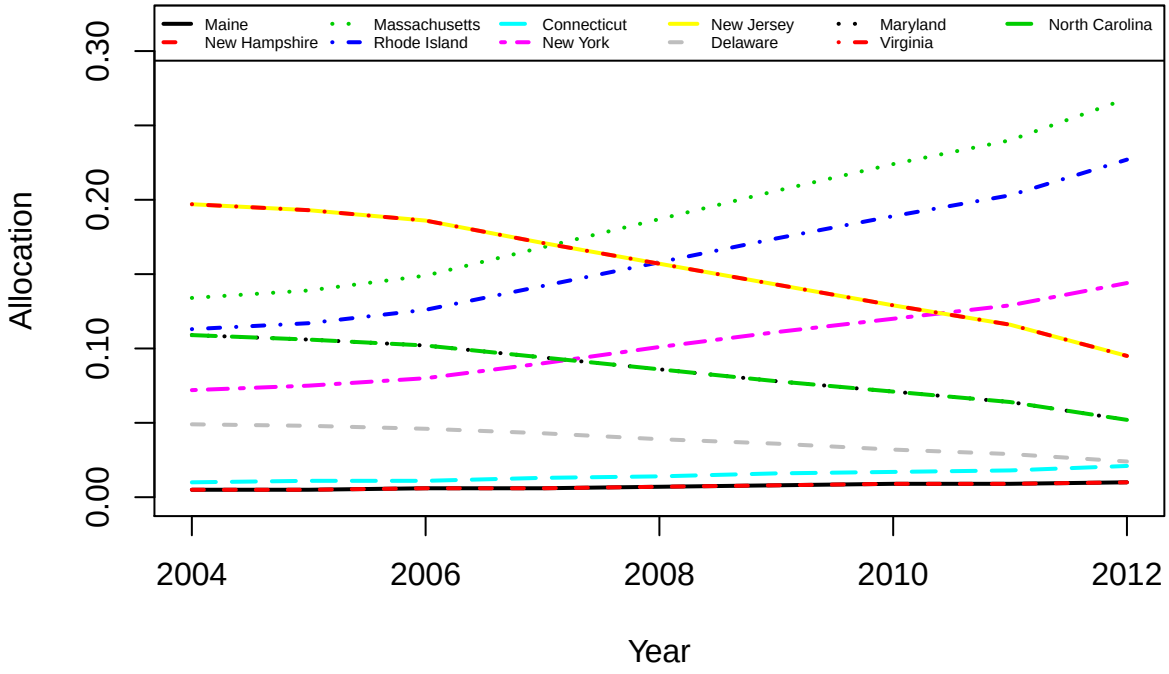

Figure 3: Allocation trajectory for all states under the parameters outlined in example 1 above. The control rule is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

Table 4 - Allocation trajectory for all states under the parameters outlined in example 2 above. The control rule 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	0.070	0.071	0.074	0.082	0.093	0.102	0.109	0.112	0.119
New Hampshire	0.016	0.027	0.044	0.064	0.084	0.099	0.108	0.112	0.119
Massachusetts	0.106	0.099	0.094	0.094	0.099	0.105	0.110	0.113	0.119
Rhode Island	0.124	0.114	0.104	0.101	0.102	0.106	0.110	0.113	0.119
Connecticut	0.012	0.024	0.041	0.063	0.083	0.098	0.108	0.112	0.119
New York	0.012	0.024	0.041	0.063	0.083	0.098	0.108	0.112	0.119
New Jersey	0.111	0.111	0.108	0.099	0.088	0.077	0.069	0.065	0.057
Delaware	0.192	0.176	0.154	0.127	0.101	0.083	0.071	0.065	0.057
Maryland	0.111	0.111	0.108	0.099	0.088	0.077	0.069	0.065	0.057
Virginia	0.057	0.068	0.078	0.081	0.079	0.073	0.068	0.065	0.057
North Carolina	0.192	0.176	0.154	0.127	0.101	0.083	0.071	0.065	0.057

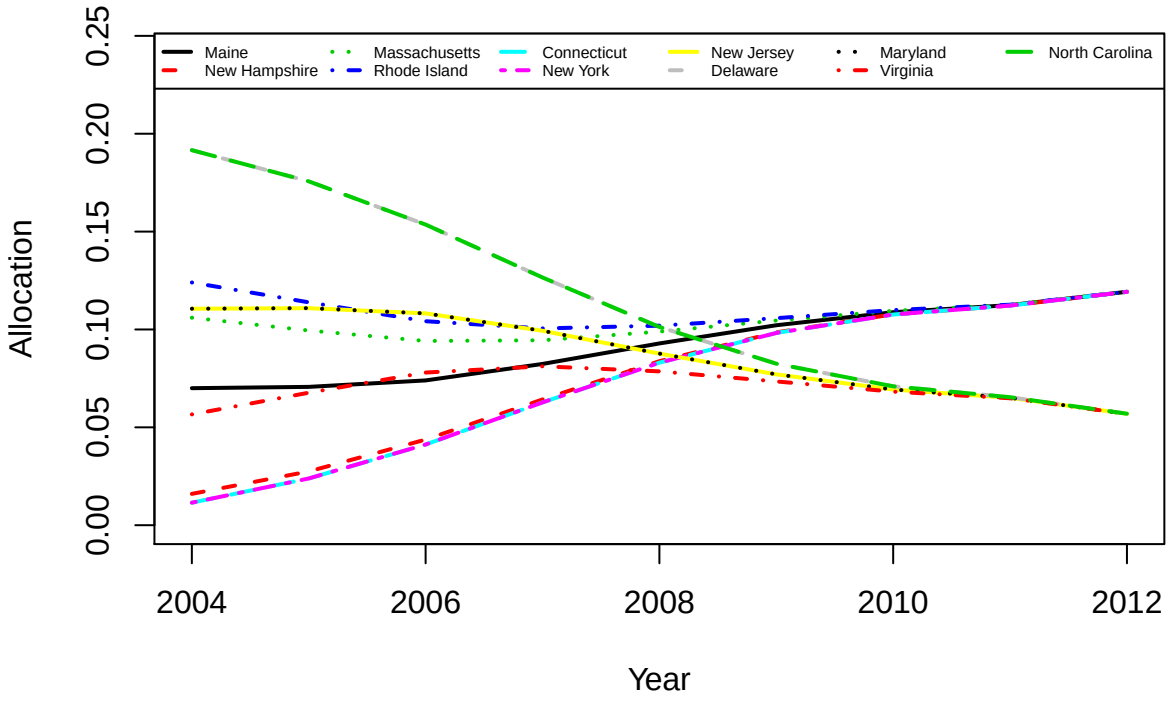

Figure 4: Allocation trajectory for all states under the parameters outlined in example 2 above. The control rule is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

Table 5 - Allocation trajectory for all states under the parameters outlined in example 3 above. The control rule 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 control rule 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	0.005	0.006	0.006	0.006	0.007	0.007	0.007	0.008	0.008	0.008
New Hampshire	0.005	0.005	0.005	0.006	0.006	0.006	0.007	0.007	0.007	0.008	0.008	0.008
Massachusetts	0.132	0.134	0.139	0.149	0.159	0.168	0.177	0.185	0.191	0.196	0.202	0.209
Rhode Island	0.112	0.114	0.118	0.126	0.134	0.142	0.150	0.157	0.161	0.166	0.171	0.176
Connecticut	0.010	0.010	0.011	0.011	0.012	0.013	0.014	0.014	0.015	0.015	0.016	0.016
New York	0.071	0.072	0.075	0.080	0.085	0.090	0.095	0.100	0.103	0.106	0.109	0.112
New Jersey	0.199	0.197	0.193	0.186	0.178	0.171	0.164	0.158	0.153	0.148	0.144	0.140
Delaware	0.050	0.049	0.048	0.046	0.045	0.043	0.041	0.040	0.038	0.037	0.036	0.035
Maryland	0.109	0.108	0.106	0.102	0.098	0.094	0.090	0.087	0.084	0.082	0.079	0.077
Virginia	0.199	0.197	0.193	0.186	0.178	0.171	0.164	0.158	0.153	0.148	0.144	0.140
North Carolina	0.109	0.108	0.106	0.102	0.098	0.094	0.090	0.087	0.084	0.082	0.079	0.077

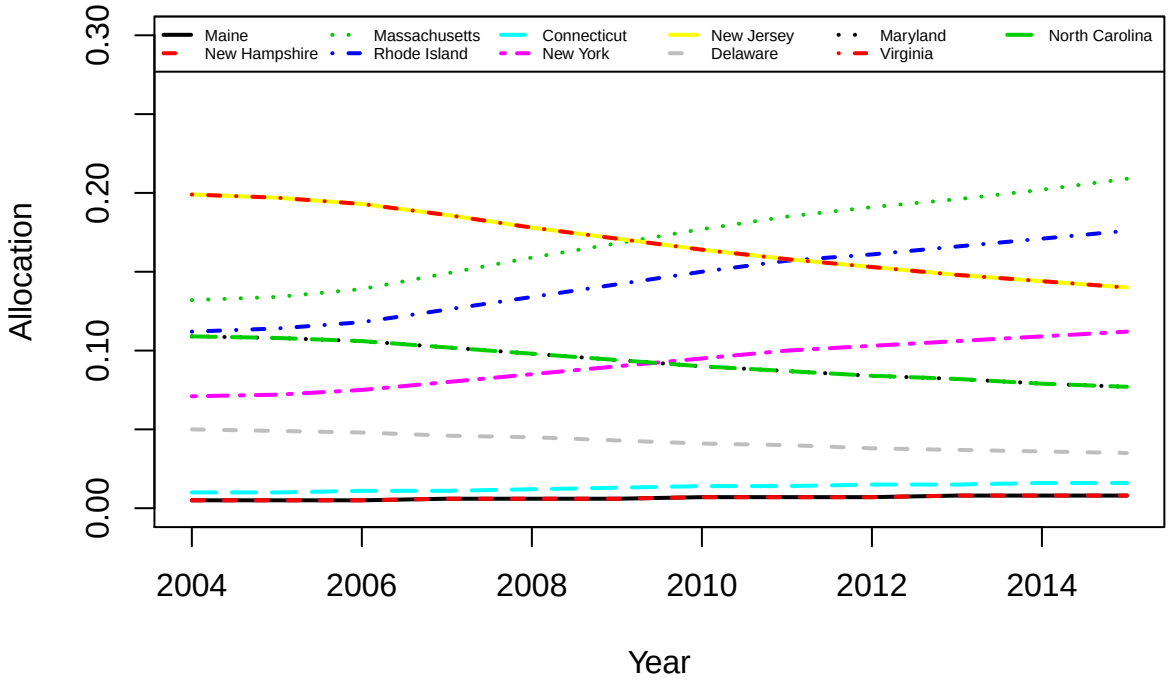

Figure 5: Allocation trajectory for all states under the parameters outlined in example 3 above. The control rule is triggered in each year from 2012 through 2015 in this example. This is a retrospective analysis as if this method were in place beginning in 2004. The control rule is triggered in 2012 - 2015 in this example.

Table 6 - Allocation trajectory for all states under the parameters outlined in example 4 above. The control rule 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	NA
Maine	0.005	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	0.005
Massachusetts	0.129	0.129	0.127	0.127	0.147	0.166	0.188	0.206	0.219	0.236
Rhode Island	0.109	0.109	0.106	0.106	0.123	0.139	0.157	0.172	0.183	0.197
Connecticut	0.020	0.020	0.031	0.042	0.048	0.055	0.062	0.068	0.072	0.078
New York	0.081	0.081	0.092	0.105	0.121	0.137	0.155	0.169	0.180	0.195
New Jersey	0.209	0.209	0.230	0.236	0.239	0.230	0.218	0.206	0.192	0.170
Delaware	0.044	0.044	0.038	0.034	0.028	0.024	0.019	0.016	0.013	0.011
Maryland	0.101	0.101	0.090	0.084	0.069	0.059	0.046	0.038	0.033	0.026
Virginia	0.186	0.186	0.168	0.158	0.130	0.111	0.087	0.072	0.062	0.049
North Carolina	0.101	0.101	0.090	0.084	0.069	0.059	0.046	0.038	0.033	0.026

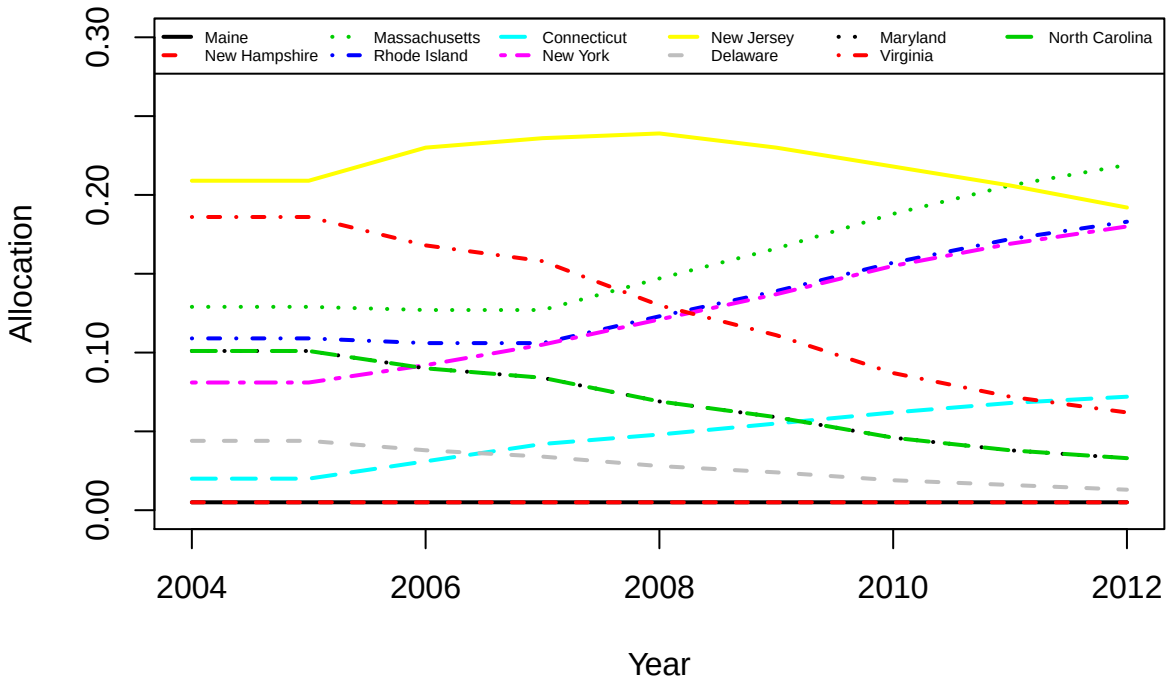

Figure 6: Allocation trajectory for all states under the parameters outlined in example 4 above. The control rule is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

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Appendix C. Trigger Approach

Table 1. Reallocation of black sea bass commercial quota above a 3 million pound trigger, based on the 2017 coastwide quota of 4.12 million pounds. Quota up to and including 3 million pounds is distributed according to the status quo state allocations. Quota above the trigger is distributed equally to the states of Massachusetts through North Carolina, while Maine and New Hampshire are each allocated 1% of the quota above the trigger.

3 Million Pound Trigger					
State	**Current Allocation (%) of quotas up to and including 3 million lbs**	**Status Quo distribution of first 3 million lbs of quota**	**Allocation (%) of additional quota above 3 million lb**	**Example state allocations (lbs) under a 4.12 million lb quota**	**Example state allocations (%) under a 4.12 million lb quota**
ME	0.5%	15,000	1.00%	26,200	0.64%
NH	0.5%	15,000	1.00%	26,200	0.64%
MA	13.0%	390,000	10.89%	511,956	12.43%
RI	11.0%	330,000	10.89%	451,956	10.97%
CT	1.0%	30,000	10.89%	151,956	3.69%
NY	7.0%	210,000	10.89%	331,956	8.06%
NJ	20.0%	600,000	10.89%	721,956	17.52%
DE	5.0%	150,000	10.89%	271,956	6.60%
MD	11.0%	330,000	10.89%	451,956	10.97%
VA	20.0%	600,000	10.89%	721,956	17.52%
NC	11.0%	330,000	10.89%	451,956	10.97%
Total	100.0%	3,000,000	100%	4,120,000	100.00%

Note: Should an annual coastwide quota be equal to or less than 3 million pounds, allocation percentage defaults to current allocation percentage.

Table 2. Reallocation of black sea bass commercial quota above a 4 million pound trigger, based on the 2017 coastwide quota of 4.12 million pounds. Quota up to and including 3 million pounds is distributed according to the status quo state allocations. Quota above the trigger is distributed equally to the states of Massachusetts through North Carolina, while Maine and New Hampshire are each allocated 1% of the quota above the trigger.

4 Million Pound Trigger					
State	**Current Allocation (%) of quotas up to and including 4 million lbs**	**Status Quo distribution of first 4 million lbs of quota**	**Allocation (%) of additional quota above 4 million lb**	**Example state allocations (lbs) under a 4.12 million lb quota**	**Example state allocations (%) under a 4.12 million lb quota**
ME	0.5%	20,000	1.00%	21,200	0.51%
NH	0.5%	20,000	1.00%	21,200	0.51%
MA	13.0%	520,000	10.89%	533,067	12.94%
RI	11.0%	440,000	10.89%	453,067	11.00%
CT	1.0%	40,000	10.89%	53,067	1.29%
NY	7.0%	280,000	10.89%	293,067	7.11%
NJ	20.0%	800,000	10.89%	813,067	19.73%
DE	5.0%	200,000	10.89%	213,067	5.17%
MD	11.0%	440,000	10.89%	453,067	11.00%
VA	20.0%	800,000	10.89%	813,067	19.73%
NC	11.0%	440,000	10.89%	453,067	11.00%
Total	100.0%	4,000,000	100%	4,120,000	100.00%

Note: Should an annual coastwide quota be equal to or less than 4 million pounds, allocation percentage defaults to current allocation percentage.

Table 3. Reallocation of black sea bass commercial quota above a 3 million pound trigger according to the Rho adjusted regional biomass proportions produced by the 2015 stock assessment, applied to the 2017 coastwide quota of 4.12 million pounds. Quota up to and including 3 million pounds is distributed according to the status quo state allocations**. Quota above the trigger is distributed to the northern and southern regions according to their respective biomass proportions, and then equally to the states within each region, except Maine and New Hampshire which are each allocated 1% of the quota allocated to the northern region.**

3 Million Pound Trigger – Allocations of Additional Quota Based on Regional Biomass Proportions						
State	**Current Allocation (%) of quotas up to and including 3 million lbs**	**Status Quo distribution of first 3 million lbs of quota**	**2015 Assessment Rho Adjusted Regional Biomass Proportion**	**Allocation (%) of additional quota above 3 million lb**	**Example state allocations (lbs) under a 4.12 million lb quota**	**Example state allocations (%) under a 4.12 million lb quota**
ME	0.5%	15,000	0.86	1.0%	26,200	0.64%
NH	0.5%	15,000		1.0%	26,200	0.64%
MA	13.0%	390,000		21.0%	625,200	15.17%
RI	11.0%	330,000		21.0%	565,200	13.72%
CT	1.0%	30,000		21.0%	265,200	6.44%
NY	7.0%	210,000		21.0%	445,200	10.81%
NJ	20.0%	600,000	0.14	2.8%	631,360	15.32%
DE	5.0%	150,000		2.8%	181,360	4.40%
MD	11.0%	330,000		2.8%	361,360	8.77%
VA	20.0%	600,000		2.8%	631,360	15.32%
NC	11.0%	330,000		2.8%	361,360	8.77%
Total	100.0%	3,000,000	100.0%	100.0%	4,120,000	100.0%

Note: Should an annual coastwide quota be equal to or less than 3 million pounds, allocation percentage defaults to current allocation percentage.

Table 4. Reallocation of black sea bass commercial quota above a 3 million pound trigger according to the Rho adjusted regional biomass proportions produced by the 2015 stock assessment, applied to the 2017 coastwide quota of 4.12 million pounds. Quota up to and including 3 million pounds is distributed according to the status quo state allocations. **Quota above the trigger is distributed to the northern and southern regions according to their respective biomass proportions, and then distributed to the states within each region based on their current allocation proportions.** The highlighted state allocations for quota above the trigger are the product of multiplying each state's share of the regional biomass proportion by the regional biomass proportion.

3 Million Pound Trigger – Allocations of Additional Quota Based on Regional Biomass Proportions							
State	**Current Allocation (%) of quotas up to and including 3 million lbs**	**Status Quo distribution of first 3 million lbs of quota**	**2015 Assessment Rho Adjusted Regional Biomass Proportion**	**State Share of Regional Biomass Proportion Based on current allocations**	**Allocation (%) of additional quota above 3 million lb**	**Example state allocations (lbs) under a 4.12 million lb quota**	**Example state allocations (%) under a 4.12 million lb quota**
ME	0.5%	15,000	0.86	1.52%	1.30%	29,594	0.72%
NH	0.5%	15,000		1.52%	1.30%	29,594	0.72%
MA	13.0%	390,000		39.39%	33.88%	769,442	18.68%
RI	11.0%	330,000		33.33%	28.67%	651,067	15.80%
CT	1.0%	30,000		3.03%	2.61%	59,188	1.44%
NY	7.0%	210,000		21.21%	18.24%	414,315	10.06%
NJ	20.0%	600,000	0.14	29.85%	4.18%	646,806	15.70%
DE	5.0%	150,000		7.46%	1.04%	161,701	3.92%
MD	11.0%	330,000		16.42%	2.30%	355,743	8.63%
VA	20.0%	600,000		29.85%	4.18%	646,806	15.70%
NC	11.0%	330,000		16.42%	2.30%	355,743	8.63%
Total	100.0%	3,000,000	100.0%	100.0%	100.0%	4,120,000	100%

Note: Should an annual coastwide quota be equal to or less than 3 million pounds, allocation percentage defaults to current allocation percentage.

Appendix D. Spatial Distribution of Black Sea Bass Harvest, 2010-2017

The PDT examined data on the location of commercial black sea bass harvest during 2010-2017. Commercial landings by state, year, and statistical area were provided by the ACCSP. Landings by area were estimated based on a combination of state and federal VTR and dealer data.

Black Sea Bass landings in pounds prepared by year, state, and gear were validated with the states, with the exception of CT. Reported quantity of landings from the federal VTR data and state fishermen reports was queried and proportions by gear type and statistical area by year and state were calculated. These proportions were applied to the validated landings for all states with the exception of NY and NC, as these two states provided validated landings by gear and area. The PDT was provided with the original landings, the VTR and fishermen data, the calculated proportions, final landings with proportions applied, and a comparison of pounds by year and state.

In the most recent benchmark stock assessment, the NEFSC commercial statistical areas were partitioned into northern and southern spatial subunits, as defined in Table 1. The data suggest the proportion of total coastwide (i.e., ME-NC) commercial black sea bass landings caught in northern region statistical areas increased by about 11% between 2010-2013 and 2014-2017 (Figures 1-3, Table 2). This proportional increase was greater when considering just landings in the southern region (i.e., 19.56% if the southern region is defined as NJ-NC and 13.22% if the southern region is defined as DE-NC; Tables 5-6). Although the proportion of southern region landings caught in northern region statistical areas increased from 2010-2013 to 2014-2017, the pounds of southern region landings from southern region statistical areas increased over that time period.

New Jersey commercial harvest was close to evenly distributed between northern and southern region statistical areas during 2010-2017. A greater proportion of New Jersey harvest occurred in southern region statistical areas compared to northern region statistical areas during 2010-2013. Northern region statistical areas accounted for a greater proportion of New Jersey harvest, compared to southern region statistical areas, during 2014-2017 (Table 3).

Figures

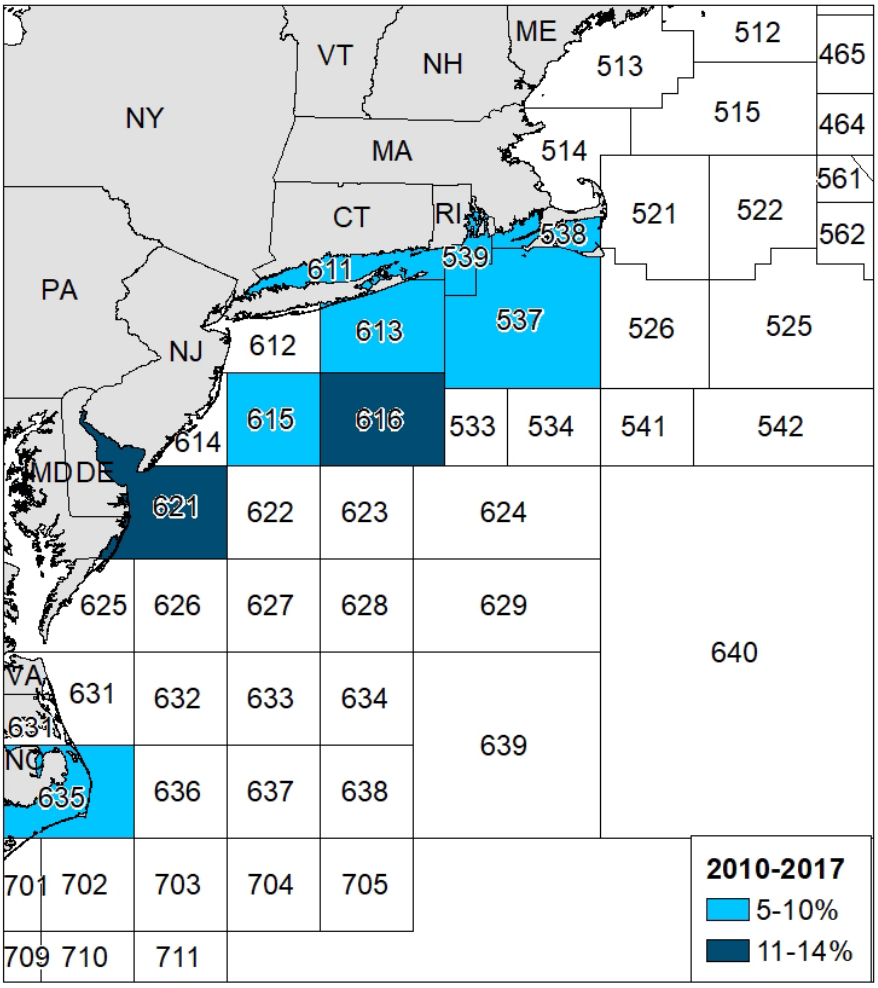

Figure 2. Proportion of commercial black sea bass landings, MA-NC, by statistical area, 2010-2017. Statistical areas accounting for less than 5% of total landings are not shown and collectively accounted for 22.79% of total landings. Only landings associated with valid northeast region statistical areas 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.

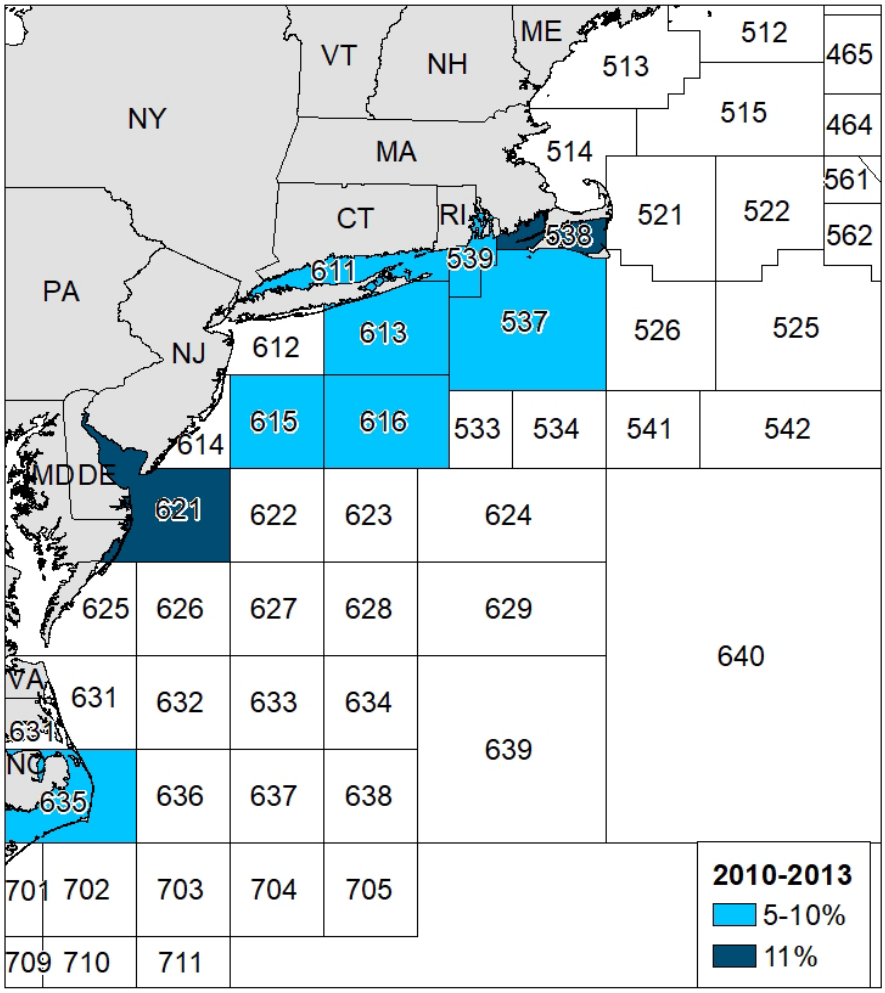

Figure 3. Proportion of commercial black sea bass landings, MA-NC, by statistical area, 2010-2013. Statistical areas accounting for less than 5% of total landings are not shown and collectively accounted for 17.20% of total landings. Only landings associated with valid northeast region statistical areas 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.

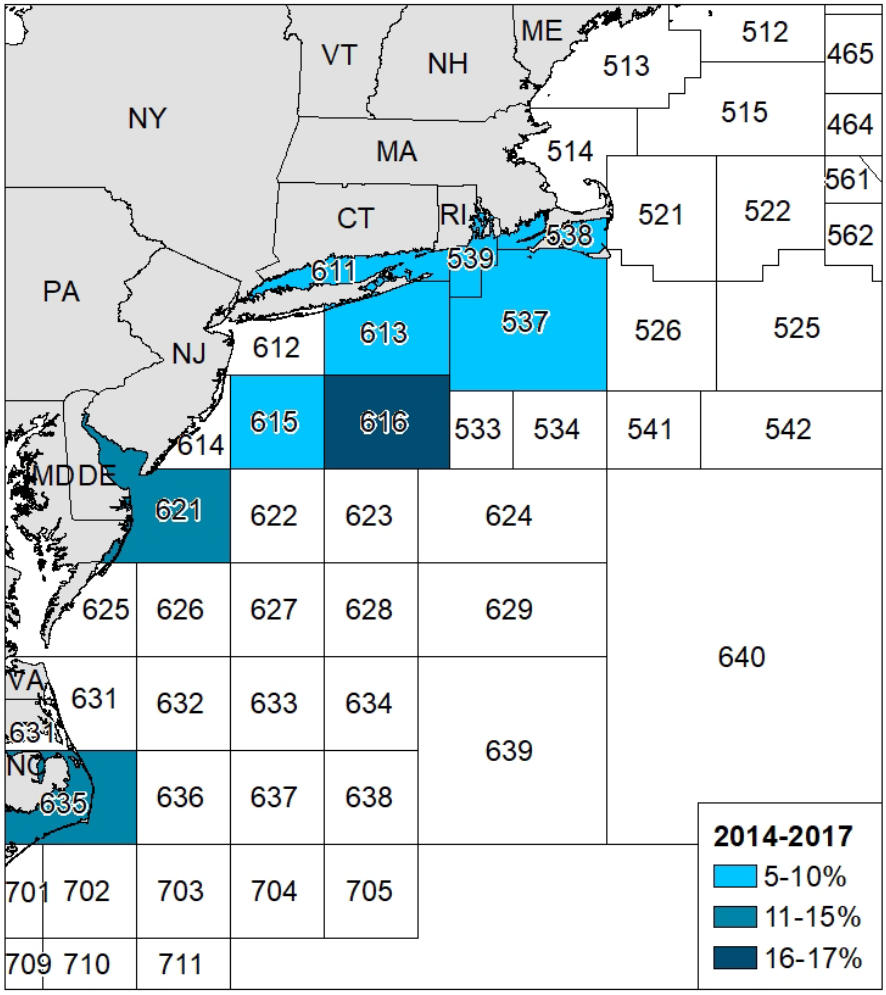

Figure 4. Proportion of commercial black sea bass landings, MA-NC, by statistical area, 2014-2017. Statistical areas accounting for less than 5% of total landings are not shown and collectively accounted for 12.87% of total landings. Only landings associated with valid northeast region statistical areas 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.

Tables

Table 1. Regional partitioning of statistical areas for the black sea bass spatial stock assessment.

Statistical Areas in Northern Region	511, 513, 514, 515, 521, 522, 525, 526, 533, 534, 537, 538, 539, 541, 542, 543, 561, 562, 611, 612, 613, 616
Statistical Areas in Southern Region	614, 615, 621, 622, 623, 624, 625, 626, 627, 628, 631, 632, 633, 634, 635, 636

Table 2. Proportion of black sea bass commercial harvest, MA-NC, 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.

MA-NC Landings by Statistical Area						
	2010-2017		2010-2013		2014-2017	
	Proportion	Pounds	Proportion	Pounds	Proportion	Pounds
Total N areas	57.82%	9,805,213	51.54%	3,554,769	62.13%	6,250,444
Total S areas	42.18%	7,152,885	48.46%	3,342,576	37.87%	3,810,309
Total	100%	16,958,098	100%	6,897,345	100%	10,060,753

Table 3. Proportion of New Jersey black sea bass commercial harvest 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.

NJ Landings by Statistical Area			
	2010-2017	2010-2013	2014-2017
Total N areas	52.04%	34.40%	61.87%
Total S areas	47.96%	65.59%	38.13%
Total	100%	100%	100%

Table 4. Proportion of black sea bass commercial harvest, MA-NY, 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.

MA-NY Landings by Statistical Area						
	2010-2017		2010-2013		2014-2017	
	Proportion	Pounds	Proportion	Pounds	Proportion	Pounds
Total N areas	98.94%	6,270,079	98.66%	2,650,281	99.15%	3,619,799
Total S areas	1.06%	67,062	1.34%	35,970	0.85%	31,093
Total	100%	6,337,142	100%	2,686,251	100%	3,650,891

Table 5. Proportion of black sea bass commercial harvest, NJ-NC, 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.

NJ-NC Landings by Statistical Area						
	2010-2017		2010-2013		2014-2017	
	Proportion	Pounds	Proportion	Pounds	Proportion	Pounds
Total N areas	33.28%	3,535,133	21.48%	904,488	41.04%	2,630,645
Total S areas	66.72%	7,085,823	78.52%	3,306,606	58.96%	3,779,217
Total	100%	10,620,956	100%	4,211,094	100%	6,409,862

Table 6. Proportion of black sea bass commercial harvest, DE-NC, 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.

DE-NC Landings by Statistical Area						
	2010-2017		2010-2013		2014-2017	
	Proportion	Pounds	Proportion	Pounds	Proportion	Pounds
Total N areas	23.24%	1,606,816	15.53%	448,024	28.75%	1,158,791
Total S areas	76.76%	5,308,566	84.47%	2,436,253	71.25%	2,872,314
Total	100%	6,915,382	100%	2,884,277	100%	4,031,105

Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201
703.842.0740 • 703.842.0741 (fax) • www.asmfc.org

MEMORANDUM

TO: Business Session

DATE: April 23, 2019

SUBJECT: Summer Flounder Commercial Issues Amendment Summary

In March, the Summer Flounder, Scup, and Black Sea Bass Management Board (Board) and Mid-Atlantic Fishery Management Council (Council) approved preferred alternatives for the Summer Flounder Commercial Issues Amendment to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP). The Council and Commission proposed this action to evaluate the need for a management response to changing conditions in the summer flounder fishery. This includes addressing apparent shifts in the distribution and center of biomass for the summer flounder stock (possibly related to the effects of rebuilding and/or climate change), as well as changing social and economic drivers for these fisheries. This action was proposed so that the FMP goals, objectives, and management strategies could be assessed in light of these changing fishery conditions, and can be better aligned with stakeholder priorities.

The preferred alternatives included revisions to the goals and objectives in the FMP, specific to summer flounder, and as well as new state-specific commercial allocations.

Revisions to Summer Flounder Goals and Objectives

Since Amendment 2 was implemented in 1993, the FMP objectives for summer flounder have been the following:

1. Reduce fishing mortality in the summer flounder, scup and black sea bass fishery to assure that overfishing does not occur.

2. Reduce fishing mortality on immature summer flounder, scup and black sea bass to increase spawning stock biomass.

3. Improve the yield from these fisheries.

4. Promote compatible management regulations between state and federal jurisdictions.

5. Promote uniform and effective enforcement of regulations.

6. Minimize regulations to achieve the management objectives stated above.

Revisions to these original FMP objectives were included in the Amendment not as explicit alternatives, but were included in the public hearing document to receive feedback from the public. The revised management goals and objectives focus on ensuring biological sustainability

of the summer flounder resource, supporting and enhancing development of effective management measures, and optimizing social and economic benefits from the resource. The revisions approved by the Board and Council were made to reflect current priorities in sustainably managing the resource. **The preferred alternative for revised goals and objectives follows:**

Goal 1: Ensure the biological sustainability of the summer flounder resource in order to maintain a sustainable summer flounder fishery.

> **Objective 1.1**: Prevent overfishing, and achieve and maintain sustainable spawning stock biomass levels that promote optimum yield in the fishery.

Goal 2: Support and enhance the development and implementation of effective management measures.

> **Objective 2.1**: Maintain and enhance effective partnership and coordination among the Council, Commission, Federal partners, and member states.
>
> **Objective 2.2**: Promote understanding, compliance, and the effective enforcement of regulations.
>
> **Objective 2.3**: Promote monitoring, data collection, and the development of ecosystem-based science that support and enhance effective management of the summer flounder resource.

Goal 3: Optimize economic and social benefits from the utilization of the summer flounder resource, balancing the needs and priorities of different user groups to achieve the greatest overall benefit to the nation.

> **Objective 3.1**: Provide reasonable access to the fishery throughout the management unit. Fishery allocations and other management measures should balance responsiveness to changing social, economic, and ecological conditions with historic and current importance to various user groups and communities.

Summary of Commercial Allocation Changes

The Board and Council selected a modified version of Amendment Alternative 2C, which modifies the state-by-state commercial quota allocations in years when the annual coastwide commercial quota exceeds the specified trigger of 9.55 million pounds. When the annual coastwide commercial quota is at or below 9.55 million pounds, the formula for allocating the quota to the states will remain status quo, i.e., the same state-specific percentages that have been in effect since 1993. When the annual coastwide quota exceeds 9.55 million pounds, additional quota above 9.55 million pounds will be distributed as follows: 0.333% to the states of Maine, New Hampshire and Delaware and 12.375% to the remaining states (Table 1). As a result, state allocations will vary over time based on overall stock status and the resulting coastwide commercial quotas. For 2019-2021, the Board and Council approved an annual

coastwide commercial quota of 11.53 million pounds. Depending on the timing of final rule-making by NOAA Fisheries, the new state allocation strategy could go into effect as early as January 2020.

Table 1: Modified version of Alternative 2C adopted by the Board and Council as the preferred alternative for commercial allocation.

State	Allocation of baseline quota ≤9.55 mil lb	Allocation of <u>additional</u> quota <u>beyond</u> 9.55 mil lb	Revised state quota
ME	0.04756%	0.333%	Dependent on total annual coastwide quota; state percent shares vary with amount of "additional" quota in a given year
NH	0.00046%	0.333%	
MA	6.82046%	12.375%	
RI	15.68298%	12.375%	
CT	2.25708%	12.375%	
NY	7.64699%	12.375%	
NJ	16.72499%	12.375%	
DE	0.01779%	0.333%	
MD	2.03910%	12.375%	
VA	21.31676%	12.375%	
NC	27.44584%	12.375%	
Total	100%	100%	100%

Other Issue Items in the Amendment

The Amendment included two other issue items: 1) federal moratorium permit requalification criteria and 2) adding landings flexibility to the Council's FMP. Requalification criteria for federal moratorium permit holders was included in the Amendment based on concerns that the current number of federal permits in the fishery is too high relative to recent stock size estimates and resulting quotas; the Amendment offered options to reduce the number of permit holders to reflect current stock and fishery conditions. In considering this issue item, the Board and Council made no changes to the current permit qualification criteria, which were established via Amendment 2 to the FMP – namely, any commercial landings of summer flounder in the management unit between January 26, 1985 and January 26, 1990.

The other issue item included an option to add landings flexibility to the Council's FMP. This issue was added to the Amendment to give commercial vessels greater freedom to land or possess summer flounder in the state(s) of their choice. The Council moved to not add commercial landings flexibility as a framework issue in the Council's FMP at this time. The Board currently has the flexibility to implement landings flexibility policies without a full amendment process, and landings flexibility can be considered through state level agreements without Council action.

Horseshoe Crab

Activity level: Medium

Committee Overlap Score: Low (SAS overlaps with BERP)

Committee Task List

- TC/SAS –Benchmark stock assessment
    - SAS Chair – May 2019: Present the stock assessment to the Board
- TC – March 1st: Annual compliance reports due
- ARM & TC – Fall: Annual ARM model to set Delaware Bay specifications, review red knot and VT trawl survey results

TC Members: Jeff Brunson (SC, TC Chair), Gregory Breese (USFWS), Joanna Burger (Rutgers), Ellen Cosby (PRFC), Claire Crowley (FL), Deb Pacileo (CT), Jeffrey Dobbs (NC), Steve Doctor (MD), Samantha Macquesten (NJ), Adam Kenyon (VA), Mike Millard (USFWS), Natalie Ameral (RI), Derek Perry (MA), Linda Stehlik (NMFS), Chris Wright (NMFS), Jordan Zimmerman (DE), Kristen Anstead (ASMFC), Michael Schmidtke (ASMFC)

SAS Members: John Sweka (USFWS, SAS Chair), Linda Barry (NJ), Jeffrey Dobbs (NC), Michael Kendrick (SC), Natalie Ameral (RI), David Smith (USGS), Richard Wong (DE), Kristen Anstead (ASMFC), Michael Schmidtke (ASMFC)

NEW JERSEY AUDUBON

23 April 2019

Comments: Draft 2019 Horseshoe Crab Benchmark Stock Assessment
Submitted by: Dr. David Mizrahi, Vice-president for Research and Monitoring, New Jersey Audubon Society

Dear Sir or Madam:

Thank you for providing the Draft 2019 Horseshoe Crab Benchmark Stock Assessment for review and comments. Given the public had only six days to review the 253-page assessment, I hope you will accept these comments despite their delivery after the 5 p.m.

As a shorebird ecologist working in Delaware Bay, and a member of the State of New Jersey's Endangered and Nongame Species Advisory Committee, I have a long-term professional interest in the results of this Assessment. Upon my rapid review of the 2019 Benchmark Assessment, I was disappointed to find several significant deficiencies, which I describe below.

1) ASFMC apparently did not conduct a detailed analysis of biomedical mortality or its impact on the Delaware Bay spawning population generally, and specifically female crabs which produce eggs for red knots (federal threatened) and other shorebird migrants.
    a) The Stock Assessment Subcommittee (SAS) did not appear to use available, facility-specific biomedical data (per ASFMC 2004, Addendum III, pg. 4-6) to perform a detailed assessment of biomedical mortality for Delaware Bay or other spawning populations. The SAS apparently reviewed extant biomedical mortality studies from literature, reviewed in previous stock assessments, and re-adopted the current estimate of 15 percent post-bleeding mortality. This approach brushes by the potential to identify specific areas where improvement in biomedical best management practices could be implemented to reduce crab mortality and improve crab conservation efforts.
    b) This approach also did not appear to account for the potential sale of Delaware Bay bait crabs, for bleeding and bait use, outside the Mid-Atlantic region (e.g., sale of Delaware bait crabs to Massachusetts, see below).

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c) Biomedical data, used in Assessment models and analyses, were redacted rendering analyses, results and conclusions unavailable to scientific or public review. This is counter to normal scientific peer-review processes.

2) The lack of female crab recovery was not apparently addressed in the Assessment in the context of available long-term population data (Atlantic Coast Benthic Trawl Survey, Hata and Hallerman 2018) and the long history of ASFMC harvest reductions focused on increasing female crabs.

a) Catch-per-tow and population estimates from the Benthic Trawl indicate immature females (~8 years old) are equal or twice as abundant as immature males, and the population size of Immatures is roughly equal to "mature" crabs.

b) Despite the high number of immature females, ready to recruit to mature age classes in 2-3 years, the abundances of females in "newly mature" and "mature" age classes were much lower than males, ranging from 0.33 to 2.0 times lower than "newly mature" males and 2 to 3.5 times lower than "mature" males, respectively. This is clearly due to unaccounted mortality of mature females and cannot be attributed to a lag in female recovery, egg or larval mortality.

c) In contrast, male crabs appear to be increasing, despite increased male harvest under the ARM Model, while females have failed to increase despite prohibition of female harvest under the ARM Model. The Assessment did not examine these contradictory trends in male and female age classes.

d) The Assessment did focus on modeling a "sustainable female harvest" of over 600,000 crabs from a 5.4 million female population. This model suggests a theoretical population that is 2/3 the size of the current female population (>8 million) -- is sustainable when the current female population is not capable of producing sufficient eggs to support red knots.

e) The red knot population has not increased according to mark-resighting population estimates by the ARM Subcommittee.

f) Horseshoe crab egg densities remain at or below 8,000 eggs/m2 (A Dey, pers. comm.) an order of magnitude below densities observed in New Jersey in 1989-1991 prior to large bait harvests of the mid 1990s (Botton et al. 1994).

g) These problems are demonstrative of a management paradigm that favors short-term commodity production (bait and lysate) over rapid restoration of crabs, red knots and ecosystem function of Delaware Bay.

3) The Adaptive Resource Management (ARM) Model was implemented in 2013. Although the ARM Model management objective favored Maximum harvest rather than the rapid restoration of horseshoe crabs, the ARM was embraced as an improvement, and shorebird ecologists and conservation practitioners (federal, state and conservation organizations) agreed to support this effort with data and technical participation.

a) Despite the cessation of female harvest in NJ and DE (since 2006) and MD and VA (since 2013 via ARM), female horseshoe crabs have not increased since 2007 (Hata and Hallerman 2018). This trend is supported by lack of increase in horseshoe crab eggs for shorebirds and lack of increase in red knots.

We believe that bait harvest management alone, including ARM Model, has failed to increase female crabs, surface egg densities and red knot abundance. To be successful, management must account for all sources of crab mortality including those that are challenging to estimate.

Literature Cited:

ASFMC 2004. Addendum III to the Fishery Management Plan for Horseshoe Crab. Fishery Management Report No. 32c of the Atlantic States Marine Fisheries Commission. May 2004. 14 pgs.

Botton, M. L., R. E. Loveland and T. R. Jacobsen. 1994. Site selection by migratory shorebirds in Delaware Bay, and its relationship to beach characteristics and abundance of horseshoe crab (Limulus Polyphemus) eggs. The Auk 113(3):605-616.

Dey, A. Personal Communication, April 22, 2018. NJ Div. of Fish and Wildlife, Endangered and Nongame Species Program.

Hata, D. and E. Hallerman. 2018. Preliminary results of the 2017 Horseshoe Crab Trawl Survey. Report to the ASMFC Horseshoe Crab and Delaware Bay Ecosystem Technical Committees. Dept. of Fish and Wildlife Conservation, Virginia Polytechnic Inst. and State University, Blacksburg, VA.

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March 23, 2019
Mr. Chairman, Board Members and guests,

It has been an honor and privilege to work with the Commission and a remarkable group of marine resource managers and scientists for the past 28 years to conserve the Atlantic horseshoe crab, *Limulus polyphemus*. Upon my last day as a member of the Advisory Panel, I offer a tribute to the Commission and individuals who created the remarkable HSC Fishery Management Plan (FMP) with their initiative, vision, dedication and hard work.

While searching for horseshoe crabs for my new LAL firm in Charleston, I discovered that truck loads of crabs were being collected and transferred to Virginia for the bait market. After calling this matter to the attention of our SCDNR director, Robert Boyles, he led his staff and my wife in an effort to draft and find sponsors for a bill prohibiting out-of-state transport and for conserving this resource; the bill passed the SC Senate in 1991. Our bill became a model for conservation.

At the same time, biologists near Delaware Bay were responding to overharvesting for bait. The Univ. of Delaware sponsored a forum in February 1996 that drew 81 stakeholders for the first coordinated effort to address the crisis. The following issues were addressed by notable scientists and resource leaders:

- Carl Shuster discussed HSC exploitation and abundance;
- Robert Loveland and Mark Botton presented HSC life history and commercial use;
- Stu Michels addressed stock assessment;
- Tom O'Connell described Maryland's crab fishery;
- Pet Himchak described HSC resource monitoring and management in New Jersey;
- Benjie Swan discussed spawning survey activities; and
- Jim Cooper gave an overview of the new LAL industry.

Focused leadership was urgently needed to create an FMP. In response to harvest reduction measures in NJ and DE, MD State leadership expressed support for an Atlantic coast Interstate Fisheries Management Plan via ASMFC. The Commission lacked the staffing and financial resources at that time, so the MD Department of Natural Resources offered one of its Fisheries Service employees, Tom O'Connell, to serve as the Commission's Horseshoe Crab FMP Coordinator. ASMFC agreed, and Tom moved into this role with his salary covered by MD DNR.

Tom continued to serve for several years, coordinating the development and approval of the HSC FMP, Addendum 1 that established state-by-state harvest quotas and survey requirements. The FMP was accepted in October, 1998. Carrie Selberg took on Tom's duties at ASMFC in 2001. My recent interview with Tom provided the following details about the FMP development.

Plan Development Team (PDT): The success of the PDT that drafted the FMP and Addendums was due to the following individuals, who brought different skill sets to this team:

- Tom O'Connell, for his organization, interpersonal and planning/coordination skills;
- Eric Schrading (US FWS) for his biological knowledge and writing skills;
- Stew Michels (DE DNREC) and Peter Himchak (NJ Marine Fisheries Division) for their biological insight and technical knowledge of HSC and population surveys; and
- Paul Perra (NOAA NMFS) for his ASMFC experience and strong partner relations.

Technical and Stock Assessment Committees:

- Dr. Dave Smith, US Geological Survey, Leetown Science Center, for his survey design, statistical analysis and decision support skills. Dave was a lead author of the Adapative Resource Management framework for horseshoe crabs, and member of the HSC SAC;
- Dr. Jim Berkson (VA Tech Univ) for his ability to work with technical experts and limited data to design a horseshoe crab stock assessment framework. At an early meeting at VA Tech, Jim was credited for laying out a vision of a framework to assess horseshoe crabs that was accepted and implemented by the SAC;
- Dr. Mike Millard (US FWS) for his leadership and technical skills; and
- Carl Shuster, Benjie Swan, Stew Michels, Pete HImchak, Joanna Burger, Mark Botton, Robert Loveland and many other state biologists for their early technical contributions.
- (Stock Assessment Report No. 98-01 was published February 1999.)

Advisory Panel:

- Dr. Jim Cooper and Robert Munson for co-chairing the AP and working with a very diverse group of stakeholders, and for representing their views even when in disagreement.

Tribute is also paid to Roy Miller who skillfully chaired the Horseshoe Crab Board during the contentious early period of development and implementation of the FMP, when watermen and environmentalist vigorously argued their positions. Roy recently said that the biggest disappointment of his era was failure to find a suitable bait alternative, a view we all share.

A personal tribute is also paid to Robert Boyles, SCDNR Director, who exemplified how industry and marine resource managers can work together for the best use of public resources. Robert always had a skillful and cheerful way to manage the most challenging problems. Thank you, Robert.

As indicated by the recent Stock Benchmark Assessment, the implementation of the FMP, the prudent use and conservation practices of the LAL industry and the continued work of marine scientists has secured the sustainability of the Atlantic horseshoe crab.

Finally, as your LAL resource, I have some comments about the future of LAL. The Chinese horseshoe crab is threatened because of habitat loss, overfishing for human consumption, and production of TAL (*Tachypleus* amebocyte lysate). In the absence of a return-to-sea policy, TAL crabs subject to 100% mortality, a vivid reminder that a similar fate could have befallen our horseshoe crab without the protection of LAL practices in the US. Cooper and Levin applied a return policy for LAL production from the outset of our biomedical-use discovery in 1970. TAL firms produce about 15% of the amebocyte lysate global market. They will turn to using LAL as their crab population is exhausted. Some TAL firms will purchase LAL directly from US firms while others may attempt to establish bleeding facilities in the US; ASMFC member states need to anticipate their response to this possibility.

Mortality does not occur during the LAL-related bleeding process of donor crabs, which is analogous to human blood donation. Rudloe (1983) studied the impact of bleeding on a large number of crabs in a Florida bay and estimated that bleeding increased the risk mortality by

about 10%. The SAS considers this number trivial in comparison to other HSC threats. Only older HSC, which have thinning shells and are heavily laden with a vast array of parasites and other organisms, are susceptible to the stress conditions of bleeding. The tagged crab found at Moore's Beach, NJ, is evidence that bleeding does not discourage spawning activity. (Photo from Benjie Swan.

In closing, I express my sincere appreciation for the opportunity to participate in Commission activities that conserve our horseshoe crab. It has been a truly rewarding experience. I consider it 28 years well spent!

Respectfully submitted,

James F Cooper, PharmD

Bled horseshoe crab tagged June 21,2018 and released in a creek a little to the south of Moore's Beach and found spawning July 1, 2018 on Moore's Beach.

Atlantic States Marine Fisheries Commission

ISFMP Policy Board

May 2, 2019
8:00 a.m.-9:45 a.m.
Arlington, Virginia

Draft Agenda

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

1.	Welcome/Call to Order *(J. Gilmore)*	8:00 a.m.
2.	Board Consent *(J. Gilmore)* • Approval of Agenda • Approval of Proceedings from February 2019	8:00 a.m.
3.	Public Comment	8:05 a.m.
4.	Update from Executive Committee *(J. Gilmore*)	8:15 a.m.
5.	Update from the Risk Policy Work Group *(J. McNamee*)	8:30 a.m.
6.	Update on MRIP Transition to New Surveys *(D. Van Voorhees/R. Cody*)	8:45 a.m.
7.	Committee Reports • Law Enforcement *(M. Robson*) • Artificial Reefs *(L. Havel*)	9:05 a.m.
8.	Review Noncompliance Findings, If Necessary **Action**	9:25 a.m.
9.	Other Business	9:40 a.m.
10.	Adjourn	9:45 a.m.

The meeting will be held at the Westin Crystal City, 1800 S. Eads Street, Arlington, Virginia; 703.486.1111

MEETING OVERVIEW

ISFMP Policy Board Meeting
Thursday May 2, 2019
8:00 -9:45 a.m.
Arlington, Virginia

Chair: Jim Gilmore (NY) Assumed Chairmanship: 10/17	Vice Chair: Pat Keliher (ME)	Previous Board Meeting: February 7, 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 February 7, 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. Update from Executive Committee (8:15-8:30 a.m.)

Background

- The Executive Committee will meet on May 1, 2019

Presentations

- J. Gilmore will provide an update of the two meetings

Board action for consideration at this meeting

- none

5. Update on the Risk and Uncertainty Policy (8:30-8:45 a.m.)

Background

- In 2016, the Risk and Uncertainty Policy Workgroup presented a draft Commission Risk and Uncertainty Policy and were advised by the Board to continue development.
- In 2018, the Risk and Uncertainty Policy Workgroup held a Workshop to walk through the Policy using striped bass as an example.
- At the 2018 Annual Meeting, the Board advised the Workgroup to continue development of the Risk and Uncertainty Policy and to bring the Policy to some of the Commission technical committees for review.

Presentations

- J. McNamee will present the progress to-date the workgroup has made.

Board action for consideration at this meeting

- None

6. Update on MRIP Transition to New Surveys (8:45-9:05 a.m.)

Background

- Two workshops are being planned (1) SAMFMC SSC workshop to assess the plausibility of MRIP Fishing Effort Survey estimates of private boat and shore fishing effort and (2) FWC/MRIP workshop to assess possible causes of differences between Florida Gulf Reef Fish Survey and MIRP general survey estimates of private boat catches of reef fish species off the Gulf coast of Florida.

Presentations

- D. Van Voorhees and R. Cody will provide an update MRIP Activities related to the Fishing Effort Survey

Board action for consideration at this meeting

- none

7. Standing Committee Reports (9:05-9:25 a.m.)

Background

- The Artificial Reef Committee met on February 25-27
- The Law Enforcement Committee (LEC) will meet on April 30 and May 1.

Presentations

- L. Havel will present an overview of the Artificial Reef Committee activities
- M. Robson will present and overview of the LEC activities

Board action for consideration at this meeting

- None

8. Review Non-Compliance Findings, if Necessary Action

9. Other Business

10. Adjourn

South Atlantic Board

Activity level: Moderate

Committee Overlap Score: Moderate (American Eel TC, Horseshoe Crab TC, Shad and River Herring TC, Sturgeon TC, Weakfish TC)

Committee Task List

- Black Drum TC –Review 2014 benchmark stock assessment research recommendations and make recommendation for next stock assessment
- Cobia PDT – May – August 2019: Draft Amendment 1 process; current step: Board Review of Draft Amendment 1 for Public Comment
- Cobia TC – Involvement of certain members in SEDAR 58 assessment process
- Red Drum SAS – Develop assessment roadmap and update ASC on progress
- Atlantic Croaker TC - July 1: Compliance Reports Due
- Red Drum TC – July 1: Compliance Reports Due
- Cobia TC – July 1: Compliance Reports Due
- Atlantic Croaker PRT – August 1: Update Traffic Light Analysis
- Spot PRT – August 1: Update Traffic Light Analysis
- Black Drum TC – August 1: Compliance Reports Due
- Spotted Seatrout PRT – September 1: Compliance Reports Due
- Spanish Mackerel PRT – October 1: Compliance Reports Due
- Spot PRT – November 1: Compliance Reports Due

TC Members:

Atlantic Croaker: Chris McDonough (SC, Chair), Kristen Anstead (ASMFC), Michael Schmidtke (ASMFC), Tim Daniels (NJ), Michael Greco (DE), Harry Rickabaugh (MD), Jason Rock (NC), Dan Zapf (NC), Dawn Franco (GA), Joseph Munyandorero (FL),

Black Drum: Harry Rickabaugh (MD, Chair), Jeff Kipp (ASMFC), Michael Schmidtke (ASMFC), Jordan Zimmerman (DE), Chris Stewart (NC), Chris McDonough (SC), Ryan Harrell (GA), Dustin Addis (FL)

Cobia: Michael Schmidtke (ASMFC), Linda Barry (NJ), Angela Giuliano (MD), Alex Aspinwall (VA), Anne Markwith (NC), Mike Denson (SC), Chris Kalinowsky (GA), Christina Wiegand (SAMFC), Michael Larkin (SERO)

Red Drum: Jeff Kipp (ASMFC), Michael Schmidtke (ASMFC), Tim Daniels (NJ), Michael Greco (DE), Robert Bourdon (MD), Lee Paramore (NC), Joey Ballenger (SC), Chris Kalinowsky (GA), Behzad Mahmoudi (FL), Roger Pugliese (SAFMC)

Spanish Mackerel (PRT): Michael Schmidtke (ASMFC), Randy Gregory (NC), BJ Hilton (GA), Dustin Addis (FL), Christina Wiegand (SAFMC), John Hadley (SAFMC)
Spot (PRT): Michael Schmidtke (ASMFC), Harry Rickabaugh (MD), Adam Kenyon (VA), Dan Zapf (NC), Chris McDonough (SC), Dawn Franco (GA)
Spotted Seatrout (PRT): Michael Schmidtke (ASMFC), Douglas Lipton (MD), Steve Poland (NC), Joey Ballenger (SC), Chris Kalinowsky (GA)

SAS Members:
Red Drum: Jeff Kipp (ASMFC), Michael Schmidtke (ASMFC), Angela Giuliano (MD), Lee Paramore (NC), Joey Ballenger (SC), Liz Herdter Smith (FL)

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Jeannie Haddaway-Riccio, Secretary

April 15, 2019

MEMORANDUM

TO: ASMFC South Atlantic State/Federal Fisheries Management Board

FROM: David Blazer and Lynn Fegley, Maryland Department of Natural Resources

SUBJECT: Public input on potential Atlantic States Marine Fisheries Commission management measures for spot and Atlantic croaker

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The South Atlantic State/Federal Fisheries Management Board (Board) requested member states seek public comment regarding potential management measures for spot and Atlantic croaker that could be considered in response to declining trends in harvest and abundance. Maryland is focusing its efforts on spot because it already has size, creel and season limits in place for croaker, whereas spot are not currently regulated. Maryland Department of Natural Resources Fishing and Boating Services staff held a public meeting on Jan. 3, 2019. There were approximately 25 attendees from across the state and from a variety of sectors (e.g., charter boat captains, fish potters, recreational fishermen and watermen). Staff provided presentations on the role and process of ASMFC, species life history, stock status, fishery statistics and timelines for potential action.

Summary of Comments:
Attendees from all sectors agreed that the state should not offer nor take the lead on spot management actions until there is further clarity on the factors that are causing problems with the spot population, including the influence of environmental factors on a short-lived stock. The group was particularly concerned with the impacts of shrimp trawl bycatch and wondered if any actions taken within Maryland could offset this source of mortality. They were also hesitant because no magnitude for harvest reduction has been identified. However, the group understood the concept of the ASMFC "book ending the fishery" to try to control the expansion of harvest. All sectors were hesitant to support any of the following tools presented by the department without first knowing what other states might do:

- Reducing any recreational or commercial harvest
- Setting a minimum size limit
- Setting a possession limit or
- Setting a season that would lead to a reduction

All sectors agreed that if regulations for spot are drafted in Maryland, the drafts should be in line, equally impacting and consistent with reductions in the other states.