



Joint MAFMC/ASMFC Webinar

Monday February 1, 2021

The Mid-Atlantic Fishery Management Council (MAFMC) will meet jointly by webinar with the Atlantic States Marine Fisheries Commission's (ASMFC) Policy Board and Summer Flounder, Scup, and Black Sea Bass Management Board on Monday February 1, 2021. This meeting will be hosted by the ASMFC. Webinar connection instructions are available on the ASMFC meeting page at <http://www.asmfc.org/home/2021-winter-meeting-webinar>.

MAFMC materials for the joint portion of the meeting are available on the MAFMC meeting page at <https://www.mafmc.org/briefing/winter-2021-joint-meeting>. Supplemental materials will be posted by January 29.

Agenda

Monday, February 1

Note: The ASMFC Summer Flounder, Scup, and Black Sea Bass Management Board will meet at 9:30 a.m. to review and consider approval of 2021 state recreational measures for summer flounder, scup, and black sea bass. This is a Board-only agenda item. The joint portion of the meeting will begin at the conclusion of this first agenda item, no earlier than 10:30 a.m.

10:30 a.m. - 11:45 a.m. MAFMC and ASMFC Policy Board (Tab 1)

- Welcome/Call to Order (P. Keliher, ASMFC/M. Luisi, MAFMC)
- Board Consent
- Public Comment
- Discuss Recreational Management Reform Initiative (J. Beaty) *Possible Action*

11:45 a.m. - 12:45 p.m. Lunch

12:45 p.m. - 4:30 p.m. MAFMC and ASMFC Summer Flounder, Scup, and Black Sea Bass Management Board (Tab 2)

- Consider Draft Addendum XXXIII and Council Amendment on Black Sea Bass Commercial State Allocations for Final Approval (S. Lewis, C. Starks, J. Beaty) *Final Action*
- Other Business/Adjourn

The above agenda items may not be taken in the order in which they appear and are subject to change as necessary. Other items may be added, but the Council cannot take action on such items even if the item requires emergency action without additional public notice. Non-emergency matters not contained in this agenda may come before the Council and / or its Committees for discussion, but these matters may not be the subject of formal Council or Committee action during this meeting. Council and Committee actions will be restricted to the issues specifically listed in this agenda. Any issues requiring emergency action under section 305(c) of the Magnuson-Stevens Act that arise after publication of the Federal Register Notice for this meeting may be acted upon provided that the public has been notified of the Council's intent to take final action to address the emergency. The meeting may be closed to discuss employment or other internal administrative matters.



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Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman

Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: January 15, 2021
To: Chris Moore, Executive Director
From: Julia Beaty, staff
Subject: Next steps for Recreational Reform Initiative Framework/Addendum and Amendment

Introduction

The Mid-Atlantic Fisheries Management Council (Council) and the Atlantic States Marine Fisheries Commission (Commission) have discussed improvements to management of jointly managed recreational fisheries since 2018. In 2019 they formed a joint steering committee to develop strategies to increase management flexibility and stability in recreational management measures for summer flounder, scup, black sea bass, and bluefish.

In October 2020, the Council and the Commission's Policy Board passed the following motion initiating two management actions to address several prioritized topics associated with the Recreational Reform Initiative:

Move to initiate a joint framework/addendum to address the following topics for summer flounder, scup, black sea bass, and bluefish, as discussed today:

- *Better incorporate MRIP uncertainty into management*
- *Develop guidelines for maintaining status quo measures*
- *Develop a process for setting multi-year measures*
- *Consider changes to the timing of federal waters measures recommendations*
- *Harvest control rule*

and to also initiate an amendment to address recreational sector separation and recreational catch accounting such that scoping for the amendment would be conducted during the development of the framework/addendum.

Each topic is described in more detail on pages 6-18. Note that "better incorporate MRIP uncertainty into management" includes three specific topics, as described in more detail later in this document.

During the February 2021 joint meeting, the Council and Policy Board will discuss next steps for these actions, including their priority level compared to other ongoing actions for these four species. As an immediate next step, staff recommend formation of a working group to further develop the topics listed above under the framework/addendum (including those that may be

moved to a technical guidance document) prior to the next joint meeting of the Council and Policy Board. The working group could be tasked with further evaluating the following:

- Compliance of prioritized topics with Magnuson-Stevens Fishery Conservation and Management Act requirements. For example, can multi-year management measures and the Harvest Control Rule comply with the requirement for annual evaluation of catch limit overages?
- Which topics currently in the framework/addendum would not require changes to the Fishery Management Plans (FMPs) and therefore could instead be accomplished through a technical guidance document? A staff recommendation for technical guidance document topics is summarized below; however, additional consideration is needed regarding which topics may warrant consideration of changes to the accountability measures (AMs) or other parts of the FMPs and therefore would require a framework/addendum.
- If a wholesale change in management such as the Harvest Control Rule is identified as the highest priority for the Council and Policy Board, would this eliminate the need for some of the other prioritized topics? If so, should some topics not be further developed?
- Plans for further technical analysis and development of alternatives.

Working group membership could include Council, Commission, and Greater Atlantic Regional Fisheries Office (GARFO) staff and leadership, as well as additional individuals with expertise in Magnuson Act requirements, methodologies used by the Marine Recreational Information Program (MRIP), and federal and state management of these recreational fisheries.

During the next joint meeting of the Council and Policy Board, potentially in May 2021, the two groups could review progress made by the working group and further refine priorities and the planned timelines for completion of these actions.

To assist in the discussion in February, this document provides rationale for developing some topics through a technical guidance document rather than a framework/addendum, as well as example timelines and background information on all topics prioritized in October 2020.

Types of Management Actions

Staff recommend that some of the prioritized topics be developed through a technical guidance document, rather than a framework/addendum. Some topics are highly technical in nature and may not require changes to the FMPs, depending on the specific changes desired by the Council and Board. For example, guidelines for appropriate use of data could be adopted through a technical guidance document. However, a framework/addendum may be required if specific management responses to the data are considered, or if changes in how the data are used require changes to the AMs. Table 1 shows an example of which topics could potentially be addressed through a technical guidance document; however, this grouping may need to be revised after further evaluation of these topics to determine which topics may require or warrant a change to the FMPs. This grouping could be revisited during the next joint meeting of the Council and Policy Board.

Table 1: Example grouping of the prioritized Recreational Reform Initiative topics into three types of management actions. The grouping of the technical guidance document and framework/addendum topics may be revisited after further consideration of which topics may require or warrant a change to the FMPs.

Technical Guidance Document	Framework/Addendum	Amendment
<ul style="list-style-type: none"> • Develop a process for identifying and smoothing outlier MRIP estimates.* • Evaluate the pros and cons of using preliminary current year MRIP data.* • Develop guidelines for maintaining status quo measures. 	<ul style="list-style-type: none"> • Envelope of uncertainty approach for determining if changes to recreational management measures are needed.* • Develop process for setting multi-year recreational management measures. • Consider changes to the timing of recommending federal waters measures. • Harvest Control Rule proposal put forward by 6 recreational organizations. 	<ul style="list-style-type: none"> • Recreational sector separation. • Recreational catch accounting.

*When the Council and Board passed the motion on page 1, it was understood that “better incorporate MRIP uncertainty into management” addressed these topics.

Draft Timeline for Next Steps

Table 2 lists draft timelines for development of a technical guidance document, a joint framework/addendum, and a joint amendment to address the prioritized Recreational Reform Initiative topics. These timelines assume the Council and Board will develop some topics through a technical guidance document, rather than a joint framework/addendum. If this recommendation is not approved, then those topics would be developed through the framework/addendum and the timeline for the framework/addendum is likely to extend beyond that listed below.

The timelines in Table 2 also assume that the technical guidance document and framework/addendum are high priorities for the Council and Board over the next few years and the Recreational Reform amendment is a lower priority. The timeline for the amendment will depend on the refined scope of the action, which will be determined after the scoping period.

The timelines take into consideration other ongoing priority actions for these species and are feasible for Council staff. However, Commission and GARFO staff have raised concerns about their ability to meet these timelines given staff capacity and other priority actions for these four species.

Table 2: Draft timeline for next steps for development of a technical guidance document, joint framework/addendum, and joint amendment to address all prioritized Recreational Reform Initiative topics. These timelines assume the Council and Board develop some topics in a technical guidance document, rather than a framework/addendum, otherwise the timeline for the framework/addendum will likely be longer than that listed below. Bold text indicates a potential joint meeting. All dates are subject to change.

Date	Technical Guidance Document	Framework/Addendum	Amendment¹
Feb 2021	Council/Board discuss next steps. Working group formed to assist with analysis and development of topics.	Council/Board discuss next steps. Working group formed to assist with analysis and development of alternatives.	Council/Board discuss next steps and priority level.
Mar-Apr 2021	Working group further develops and analyzes topics.	Working group further develops and analyzes topics, considers plan for scoping. ²	--
May 2021	Council/Board review working group progress, refine list of topics in technical guidance document if necessary.	Council/Board review working group progress and refine list of topics in framework/addendum if necessary.	Council/Board review priority level for this action. FMAT/PDT formed (assuming action remains a priority.)
Jun-July 2021	Further technical development.	FMAT/PDT develops draft scoping document. ²	FMAT/PDT develops draft scoping document.
Aug 2021	Council/Board review progress.	Council/Board approve scoping document. ²	Council/Board approve scoping document and scoping plan.
Sep-Oct 2021	Working group completes development of draft document.	Scoping. ²	Scoping.

¹ This timeline assumes this amendment remains a high priority after further Council and Policy Board discussion in February and May 2021. If this amendment is not a high priority, the timeline would be extended.

² The Council and Board do not typically hold scoping periods for frameworks and addenda; however, the Harvest Control Rule, as proposed, requires extensive stakeholder input. See pages 10-11 for details. Specific management alternatives would not be developed prior to scoping. The intent of scoping would be to gather public input to help refine the scope of the action and to inform development of the alternatives, with an emphasis on the Harvest Control Rule. Additional public input on all alternatives in the framework/addendum will be sought after the complete range of alternatives is finalized.

Date	Technical Guidance Document	Framework/Addendum	Amendment¹
Nov 2021	MC considers for use in development of 2022 recreational measures, pending Council/Board approval in December.	FMAT/PDT reviews scoping comments and provides initial recommendations for types of alternatives to be further developed.	FMAT/PDT reviews scoping comments and provides initial recommendations for types of alternatives to be further developed.
Dec 2021	Council/Board consider approval of draft document.	Council/Board review scoping comments and FMAT/PDT recommendations; refine scope of action.	Council/Board review scoping comments and refine scope of action.
Early 2022	TC considers in development of state waters 2022 rec. measures.	FMAT/PDT further develops range of alternatives. AP meeting to review FMAT/PDT progress and recommend final range of alternatives.	FMAT/PDT develops alternatives.
Spring 2022	--	Council/Board approve final range of alternatives and draft addendum for public comment. Public hearings, if desired by states.	Council/Board review FMAT/PDT progress and provide guidance on further development of alternatives. FMAT/PDT further develops alternatives.
Summer 2022	--	FMAT/PDT and AP meetings to develop recommendations for final action. Council/Board take final action.	AP meeting to review FMAT/PDT progress and recommend final range of alternatives. Council/Board approve final range of alternatives.
Fall 2022	MC/TC and Council/Board consider for use in development of 2023 recreational management measures.	Framework/addendum documents completed by staff. Framework document submitted to NMFS for approval and implementation.	FMAT/PDT develops draft public hearing document and draft Commission amendment for public hearings.
Late 2022	recreational management measures.	Federal rulemaking process.	Council/Board approve documents for public hearings.
Early 2023			Public hearings.
Spring 2023	--	Potential federal implementation.	FMAT/PDT and AP meetings to develop recommendations for final action.
Summer 2023	--	--	Council/Board take final action.

Date	Technical Guidance Document	Framework/Addendum	Amendment ¹
Fall 2023	MC/TC and Council/Board consider for use in development of 2024 recreational management measures.	MC/TC and Council/Board consider for use in development of 2024 recreational management measures.	Staff complete amendment documents. Council document submitted to NMFS for approval and implementation
Early 2024			Federal rulemaking process.
Mid 2024	--	--	
Late 2024 or Jan 2025	--	--	Potential federal implementation.

Technical Guidance Document Topics

As described above, the following three topics could be further developed through a technical guidance document, pending further consideration of the specific changes desired. Each of these topics are described in more detail below.

- Develop a process for identifying and smoothing outlier MRIP estimates (part of the prioritized topic of “better incorporate MRIP uncertainty into management”).
- Evaluate the pros and cons of using preliminary current year MRIP data (part of the prioritized topic of “better incorporate MRIP uncertainty into management”).
- Develop guidelines for maintaining *status quo* recreational management measures.

Adopt a Process for Identifying and Smoothing Outlier MRIP Estimates

In recent years, the Commission’s Summer Flounder, Scup, and Black Sea Bass Technical Committee identified two MRIP black sea bass harvest estimates as outliers (i.e., New York 2016 wave 6 for all modes and New Jersey 2017 wave 3 private/rental mode only) and replaced them with smoothed estimates when developing state waters recreational management measures. These smoothed estimates have not been used in other parts of the management process, including the stock assessment, recreational harvest limit (RHL) and annual catch limit (ACL) overage evaluations, and the setting of federal waters recreational management measures.

The Monitoring and Technical Committees have not used statistical methods to identify potential outlier estimates for the other three species; however, they have addressed variability in the data for all four species in other ways such as using averages of multiple previous years when predicting future harvest under different management measures

The Council and Board agreed that it would be beneficial to adopt a standardized process for identifying and adjusting (if needed) outlier MRIP estimates. This process would be applied to both high and low outlier estimates as appropriate and could be used for all four species.

The Technical Committee used the Modified Thompson’s Tau approach to identify the two outlier black sea bass estimates. They used two different methods to smooth those estimates. They agreed that the appropriate method may vary on a case by case basis. If guidelines are adopted for standardizing the process of identifying and smoothing outlier MRIP estimates, it will be important for the Monitoring and Technical Committees to maintain the discretion to deviate from this process if they provide justification for doing so.

The process currently used by the Monitoring and Technical Committees to recommend recreational management measures is not codified in the FMPs; therefore, a change to this method would not require an FMP framework/addendum or amendment.

Evaluate the Pros and Cons of Using Preliminary Current Year Data

Each fall, Council staff develop projections of recreational harvest of summer flounder, scup, and black sea bass in the current year to compare against the upcoming year's RHL. These projections combine preliminary current year harvest estimates through wave 4 (i.e., through August) with the proportion of harvest by wave in one or more past years.³ The Monitoring Committee recommends the appropriate methodology in any given year. The data used (e.g., one or multiple previous years) varies on a case by case basis.

A different process is used for bluefish. Historically, expected bluefish recreational harvest has been evaluated when considering a recreational to commercial transfer. Expected bluefish harvest was typically based on the previous year or a multiple year average and did not account for preliminary current year data.

These different methodologies were developed based on Monitoring Committee guidance. The FMPs do not prescribe which data should be used to develop recreational management measures, beyond requiring use of the best scientific information available. The Council and Board wish to evaluate the appropriateness of using preliminary current year data and data from one or multiple previous years to project harvest for comparison against the upcoming year's RHL. If the Council and Board wish to provide guidance to the Monitoring and Technical Committees on which data to use, then this could be considered through a technical guidance document. However, if they wish to place restrictions on the use of certain types of data (e.g., preliminary current year data), then an FMP framework/addendum may be necessary.

Develop Guidelines for Maintaining Status Quo Recreational Management Measures

The Council and Board wish to consider standardized guidelines for comparing both recreational harvest data (all considerations described above related to outliers and preliminary data could apply) and multiple stock status metrics (biomass, fishing mortality, recruitment) when deciding if measures should remain unchanged. For example, poor or declining stock status indicators could require changes when status quo would otherwise be preferred. These guidelines would take into account existing FMP requirements, such as the accountability measures.⁴

The idea behind this concept is to establish a pre-determined, standardized checklist of metrics to evaluate when determining if recreational management measures can remain unchanged, should be more restrictive, or can be liberalized. For example, if projected recreational harvest falls within a pre-defined range above or below the next year's RHL (see next page), if recruitment and biomass trends are stable or increasing, if fishing mortality trends are stable or decreasing, and if fishing effort trends are stable or decreasing, then status quo management measures could be justified. Alternatively, if projected recreational harvest exceeds a pre-determined range above and below the RHL, if recruitment or biomass trends are declining, if fishing mortality is

³ In December 2020, MRIP announced new standards related to the dissemination of recreational catch and harvest estimates. Instead of publishing wave-level estimates, the estimates will now be published as cumulative estimates every two months. Wave-level estimates will continue to be available by request; therefore, this will not require a change to how the Monitoring Committee has typically projected current year harvest for summer flounder, scup, and black sea bass. More information is available at: <https://www.fisheries.noaa.gov/feature-story/noaa-fisheries-establishes-recreational-fishing-survey-and-data-standards>.

⁴ The summer flounder, scup, and black sea bass accountability measures are summarized in this document: https://www.mafmc.org/s/AMs-description_SF_scup-BSB_Dec2020.pdf.

above the target level, or if fishing effort shows increasing trends, then more restrictive management measures may be needed. Decisions related to future management measures will be more complicated when these indicators show a mix of positive and negative signals. Therefore, the Monitoring and Technical Committees should have the discretion to deviate from the pre-determined guidelines based on annual considerations and should provide justification for their recommendations.

The Recreational Reform Steering Committee referred to this as the “sign posts” method and drafted a preliminary example which was discussed at the October 2019 joint Council/Board meeting.⁵ However, other examples could be considered.

As previously noted, the FMPs do not prescribe which data should be used to develop recreational management measures, beyond requiring use of the best scientific information available. If the Council and Board wish to adopt guidelines on how to evaluate the available data, then this could be considered through a technical guidance document.

Framework/Addendum Topics

The following four topics could be further developed through a joint framework/addendum. Each of these topics are described in more detail below.

- Envelope of uncertainty approach for determining if changes to recreational management measures are needed (part of the prioritized topic of “better incorporate MRIP uncertainty into management”).
- Develop process for setting multi-year recreational management measures.
- Consider changes to the timing of federal waters measures recommendations.
- Harvest Control Rule proposal put forward by 6 recreational organizations.

Depending on the specific changes desired, it is possible that the envelope of uncertainty approach could be developed through a technical guidance document, rather than a framework/addendum. The working group may also determine that some of the items currently listed under the technical guidance document may require a framework/addendum. The Council and Board can further evaluate the scope of the framework/addendum based on the working group’s evaluation at a future joint meeting.

Envelope of Uncertainty Approach for determining if Changes to Recreational Management Measures are Needed

Under this approach, a pre-defined range above and below the projected harvest estimate (e.g., based on percent standard error) would be compared against the upcoming year’s RHL. If the RHL falls within the pre-defined range above and below the projected harvest estimate, then no changes would be made to management measures.

In some recent years, the Monitoring and Technical Committees have recommended maintaining status quo measures for black sea bass and summer flounder based on percent standard error (PSE) values associated with MRIP estimates. The intent behind the envelope of uncertainty approach is to develop a standard, repeatable, and transparent process to be used each year, rather than an ad hoc process. The Monitoring and Technical Committees would maintain the discretion to deviate from this process if they saw sufficient justification to do so.

This approach could be used in combination with other topics listed in this document, such as the process for identifying and smoothing outlier MRIP estimates, considerations related to the use

⁵ See the briefing materials, presentation, and webinar recording available at: <https://www.mafmc.org/briefing/october-2019>.

of preliminary current year data, and considerations related to the timing of the recommendation for federal waters management measures.

The 2013 Omnibus Recreational Accountability Measures Amendment considered a similar approach using confidence intervals around catch estimates to determine if the recreational ACL had been exceeded; however, that amendment proposed using only the lower bound of the confidence interval, rather than the upper and lower bounds. For this reason, that portion of the amendment was disapproved by NOAA Fisheries.

Develop Process for Setting Multi-Year Recreational Management Measures

The FMPs allow recreational catch and harvest limits to be set for up to three years at a time. However, each year the Council and Board consider recent data on recreational catch and harvest as well as updated stock status information, if available, before determining if the recreational possession limits, fish size limits, and open/closed seasons should be modified to ensure that the following year's RHL can be met but not exceeded. These annual considerations can result in frequent adjustments to the recreational management measures. Some Council and Board members have called this "chasing the RHL." This can be especially frustrating to stakeholders when availability is high and there is not a perceived conservation need to adjust the measures.

To address these issues, the Council and Board wish to further develop and evaluate a process for setting recreational management measures that would be in place for two years at a time, with a strong commitment among all state and federal managers to making no changes in the interim year. This would include restricting the use of conservation equivalency to make adjustments to management measures through the Commission process in the interim year. This would also include not reacting to new data that would otherwise allow for liberalizations or require restrictions. The Council and Board would react to these data when developing new recreational management measures for the following two years. The considerations described in the previous section regarding guidelines for maintaining status quo measures would not apply in the interim year. The Recreational Reform Steering Committee drafted a preliminary example process which was discussed at the October 2019 joint Council/Board meeting.⁶

An FMP framework/addendum would be required to allow for the use of multi-year recreational management measures in this way. For example, changes to the current accountability measure regulations would be needed. Additional considerations are needed regarding the Magnuson Act requirements for annual ACL overage evaluation.

Consider Changes to the Timing of Recommendations for Federal Waters Recreational Management Measures

Table 3 lists the timeline for development and implementation of recreational management measures for summer flounder, scup, and black sea bass in recent years. The timeline for bluefish has differed as preliminary current year data have not typically been used for bluefish.

The Council and Board wish to further evaluate the pros and cons of adopting federal waters recreational management measures in December (as is current practice for summer flounder, scup, and black sea bass), as opposed to earlier in the year, such as October or August. If the approach described above for multi-year management measures is used, these decisions would be made every other August, October, or December, rather than every year.

⁶ See the briefing materials, presentation, and webinar recording available at: <https://www.mafmc.org/briefing/october-2019>.

The current process of recommending federal waters measures for the upcoming year in December can pose challenges for implementing needed changes in both federal and state waters in a timely and coordinated manner. It also limits how far in advance for-hire businesses can plan their trips for the upcoming year.

In recent years, changes to the federal recreational measures for summer flounder, scup, and/or black sea bass have not been implemented until May-July of the year in which the changes are needed. Adopting recommendations for federal waters measures in August or October could allow for changes to be implemented earlier in the year; however, less information on current year fishery performance would be available for consideration.

The current regulations associated with the recreational management measures for these species do not specify the time of year at which these decisions must be made. However, a change to this timeline would impact certain parts of the FMPs which are not defined in regulations. For example, Frameworks 2, 6, and 14 to the Summer Flounder, Scup, and Black Sea Bass FMP include annual timelines for using conservation equivalency to consider if the federal waters recreational management measures for summer flounder (Frameworks 2 and 6) and/or black sea bass (Framework 14) should be waived in favor of state waters measures. For this reason, any changes to the timing of the federal waters measures recommendation should be done through a framework/addendum and cannot be addressed through a technical guidance document.

Table 3: Timeline for development and implementation of state and federal waters recreational management measures for summer flounder, scup, and black sea bass in recent years.

Month	Action
August	Council/Board set or review next year’s recreational catch and harvest limits.
November	Monitoring Committee uses preliminary current year MRIP data through wave 4 to project the full current year’s harvest for comparison against the next year’s RHL. The Monitoring Committee recommends changes to recreational management measures, if needed.
December	Council/Board adopt federal waters recreational management measures for the following year and agree on the overall level of reduction or liberalization (if any) to be achieved by the combination of all state and federal waters measures in the following year.
January - April	States develop and Board reviews and approves state waters recreational management measures for the current year.
May - July	Changes to federal waters measures implemented.

Harvest Control Rule

Six recreational fishing organizations submitted a proposal called a Harvest Control Rule through the scoping period for the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment.⁷ This was originally put forward as an allocation proposal; however, after considering the advice of the FMAT and the Recreational Reform Steering Committee, the Council and Board agreed that the allocation aspects of this proposal are not feasible under the Magnuson Act. They expressed an interest in further considering the aspects of the proposal which address the setting of recreational management

⁷ The full proposal can be found on pages 147-152 of this document: https://www.mafmc.org/s/Tab02_SFSBSB-ComRec-Allocation-Amd_2020-05.pdf.

measures, considered independently from the commercial/recreational allocation aspects of the proposal. Specifically, they wished to further evaluate the proposal's recommendation for pre-determined recreational management measure "steps" associated with different biomass levels.

The conceptual idea behind this part of the proposal is to determine a range of pre-defined management measures which would be used at different biomass levels. The upper and lower bounds of these management measure "steps" would be informed by input from recreational stakeholders. The proposal states that the most liberal step would include the most liberal set of measures preferred by anglers when biomass is high. The proposal suggests that beyond a certain level, anglers do not "need" a smaller minimum fish size, higher bag limit, or longer open season. The most conservative step would include the most restrictive measures which could be tolerated without major loss of businesses such as bait and tackle shops and party/charter businesses. The proposal also suggests that there is a point at which making measures more restrictive no longer has a conservation benefit. These ideas are conceptual at this stage and have not been fully developed or analyzed. Fully developing these concepts would require extensive stakeholder input to meet the intent of the proposal.

The Magnuson Act requires that ACLs be set each year in pounds or numbers of fish, and that each ACL have associated AMs to prevent exceeding the ACL and to trigger a management response if an ACL is exceeded. The FMP must define a way to measure total removals (total dead catch) and to evaluate performance relative to an ACL set in numbers of fish or pounds. This does not mean it is impossible to start with preferred measures and translate those into catch, but managers are still required to demonstrate that catch associated with the measures is not expected to exceed the ACL. Ultimately, managers must demonstrate that measures are expected to prevent overfishing.

To comply with these Magnuson Act requirements, each set of recreational measures should be clearly associated with projected catch levels. One concern with this approach is the feasibility of accurately predicting catch levels at each of the management measure steps. Even when recreational measures have remained similar across years, the resulting MRIP estimates have sometimes varied significantly. Total dead catch can vary substantially with external factors such as changing total and regional availability, recruitment events, or changing effort based on factors other than management measures. For these reasons, the pre-determined management measure steps, especially the upper and lower bounds, would be a starting point for consideration and would need to be regularly re-evaluated. The Council and Board could not commit to maintaining recreational management measures within a pre-determined range; however, the range could be put forward as a target.

The proposal suggests that higher levels of biomass correspond to higher levels of access, which could allow for liberalization of recreational measures. However, under current recreational fishery capacity, effort and catch can scale with biomass and availability, in some cases even under highly restrictive recreational measures. This complicates the assumption that recreational measures can liberalize when biomass increases. In addition, changes in the recreational fishery over time (e.g., general effort increases, species-specific effort changes, legal/policy constraints, and improved technology for targeting fish) further complicate the assumption that past recreational measures can be used to estimate expected future catch.

However, there are benefits to the transparency provided by a tiered management approach with clearly defined measures at each level. Additional exploration of the relationship between the effectiveness of recreational management measures and estimated biomass would also be worthwhile.

Amendment Topics

Recreational Sector Separation

Recreational sector separation would entail managing the for-hire components of the recreational fisheries separately from anglers fishing on private or rental boats and from shore.

Recreational sector separation could be considered through either separate allocations to the for-hire sector and private anglers (including anglers fishing from private or rental boats and from shore), or as separate management measures for the two recreational sectors without a fully separate allocation, as summarized below.

Sub-Allocation of the Recreational Annual Catch Limit or RHL

This option would specify within the FMP a percentage allocation to the for-hire recreational sector of either the ABC, the recreational ACL, or the RHL. There are several potential ways in which a separate allocation could be created as described below and illustrated in Figure 1. The differences between some options are nuanced, and the pros and cons of each approach should be further explored.

- A. Current FMPs:** The ABC is divided into the recreational ACL and the commercial ACL for summer flounder, scup, and black sea bass and the recreational ACT and commercial ACT for bluefish. Projected recreational discards are removed from the recreational ACL/ACT to derive the RHL. Both the private and for-hire recreational sectors are held to a single combined ACL/ACT and RHL. Evaluation of potential overages, and consequences for those overages, are considered for all recreational modes combined.
- B. Separate ACLs:** Under this approach, the ABC would be allocated three ways: into a private recreational ACL, a for-hire recreational ACL, and a commercial ACL. This method would require development of these three allocations, as well as separate AMs for the private recreational and for-hire sectors. The FMAT for the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment does not recommend this approach as it would impact the commercial allocation.
- C. Recreational Sub-ACLs:** Under this approach, the ABC would remain divided into the recreational ACL and commercial ACL based on the allocation approach defined in the FMPs. The recreational ACL would be further allocated into private and for-hire sub-ACLs. This would require development of separate AMs for the private recreational and for-hire sectors. The FMAT for the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment recommended further development of this approach as it would maintain separation of the recreational sectors from the commercial sector, it allows for consideration of different discard trends by each recreational sector, and it allows for the full separation of accountability for overages (as opposed to separate RHLs, described below).
- D. Separate RHLs:** Under this approach, the private and for-hire sectors would remain managed under a single recreational ACL. Separate RHLs could be developed for each sector for the purposes of determining management measures. Accountability under this option would likely be partially at the RHL level as performance to the RHL could be evaluated for each recreational sector for the purposes of adjusting future management measures to constrain harvest to the RHL, and partially at the ACL level (in the sense that AMs must be established at the ACL level). This approach includes separate management of harvest only; dead discards are not included in RHLs and would be accounted for at

the ACL level. Separation at the RHL level does not represent full separation and would need to include joint accountability to a combined recreational ACL, which could be problematic if one sector contributes more to an overage than the other.

Note that any approach creating separate ACLs or sub-ACLs would require the development of corresponding separate AMs.

In addition to determining where sector separation occurs, consideration should be given to which data sources and methods to use for sector allocation, including:

- How to use MRIP and/or VTR data in the allocations;
- Whether to allocate using catch (landings and dead discards) or harvest (related to the question of whether to allocate at the ACL or RHL level);
- Whether to allocate in numbers of fish or pounds;
- The base years or other method of evaluating this recreational sector data.

Many scoping comments expressed an interest in sector separation to make better use of for-hire VTR data, which some stakeholders perceive as being more accurate than the MRIP for-hire estimates since vessels with federal for-hire permits are required to submit VTRs for every trip. However, there are also concerns about the accuracy of self-reported VTR data. In addition, VTR data include estimates of numbers of fish, but not weight of fish, so incorporating VTR data into allocations would require either establishing allocations in numbers of fish, developing a method to estimate weights of harvested and discarded fish from the numbers reported on VTRs, or adding a required data field for weight to VTRs. On average, for-hire VTR harvest is lower than the MRIP for-hire estimates since 1995 (Figure 2).

Most states do not require state-only permitted vessels to submit VTRs and data from these groups would be missing if VTRs were used to determine for-hire allocations. Data from some state-specific VTR programs (e.g., New York) are incorporated into the MRIP estimates of for-hire effort; however, they are not incorporated into the MRIP estimates of catch as they have not been validated.

The FMAT for the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment noted that there is currently some "borrowing" of data between the private angler and for-hire fisheries in the MRIP estimation process. For-hire estimation by MRIP incorporates some information from VTRs. While separate estimates for each recreational sector could serve as a basis for managing them separately, if the sectors were split completely, improvements would likely be needed in the sampling efforts for both sectors. Currently, much of the for-hire sampling for summer flounder, scup, and black sea bass is focused on discards, which provides information on the length of discarded fish that contributes to the discard estimates for the entire recreational fishery. Many of the length measurements for landings come from private anglers, which influences the mean weight of landed fish used to generate recreational harvest estimates.

Separate dead discard estimates in weight are not currently available by recreational sector. Technically it would be possible to generate these estimates, but it may not be entirely defensible. Calculation of sub-allocation options could use total dead catch in numbers of fish (for catch-based allocations for separate ACLs or sub-ACLs), or total harvest in numbers of fish or pounds (for harvest-based allocations for separate RHLs). Example allocations based on harvest in numbers of fish are shown in Table 4.

The uncertainty in the recreational data by mode is an important consideration when determining if sector separation is appropriate. Because the uncertainty in the MRIP data increases as it is

broken down by wave, state, and mode, the Council and Board would need to consider whether the benefits of sector separation outweigh the drawback of increased uncertainty when using mode-specific data to set and evaluate catch limits and recreational measures. Considerations related to identifying and smoothing outlier MRIP estimates, as described earlier in this document, could also apply to this topic.

As an example, MRIP percent standard errors (PSEs) were queried for the North and Mid-Atlantic regions (Maine through Virginia) for all for-hire modes combined and private/rental/shore modes combined for summer flounder, scup, and black sea bass. Table 5 shows that the PSEs increase for the for-hire mode when separated from the combined mode data. PSEs for the private/shore modes combined are slightly higher than those for all modes combined, but there is less of a difference from the combined modes PSEs given that private and shore estimates account for most harvest of these species. PSEs also vary by species.

There are no comparable estimates of uncertainty for VTR data because these data are not an expanded estimate associated with sampling uncertainty.

Separate Management Measures for For-Hire vs. Private/Rental and Shore Modes Without Separate Allocations

Rather than creating a separate allocation for the for-hire sector, a degree of sector separation could be achieved by setting different management measures to account for the differing priorities and data for for-hire vs. private anglers (including the private/rental and shore modes).

Separate management measures by recreational sector are currently used in the bluefish fishery in federal and state waters and in a limited manner in state waters for scup and black sea bass. Massachusetts, Rhode Island, Connecticut, and New York use different scup possession limits for the for-hire sector at certain times of year. Connecticut has a different black sea bass possession limit for for-hire vessels during a certain time of the year.

It could be beneficial to develop a policy for how sector-specific measures should be developed, how accountability should be evaluated, and how adjustments would be applied to both recreational sectors. Such a policy could clarify the process for stakeholders and managers, reducing process uncertainty and increasing transparency when setting recreational measures.

Creating a policy for separate measures for for-hire vs private anglers does not require an amendment. This could possibly be done through specifications, or if not, through a framework/addendum. If separate allocations were created (see previous section), describing the process for setting separate recreational measures would be an inherent part of that option.

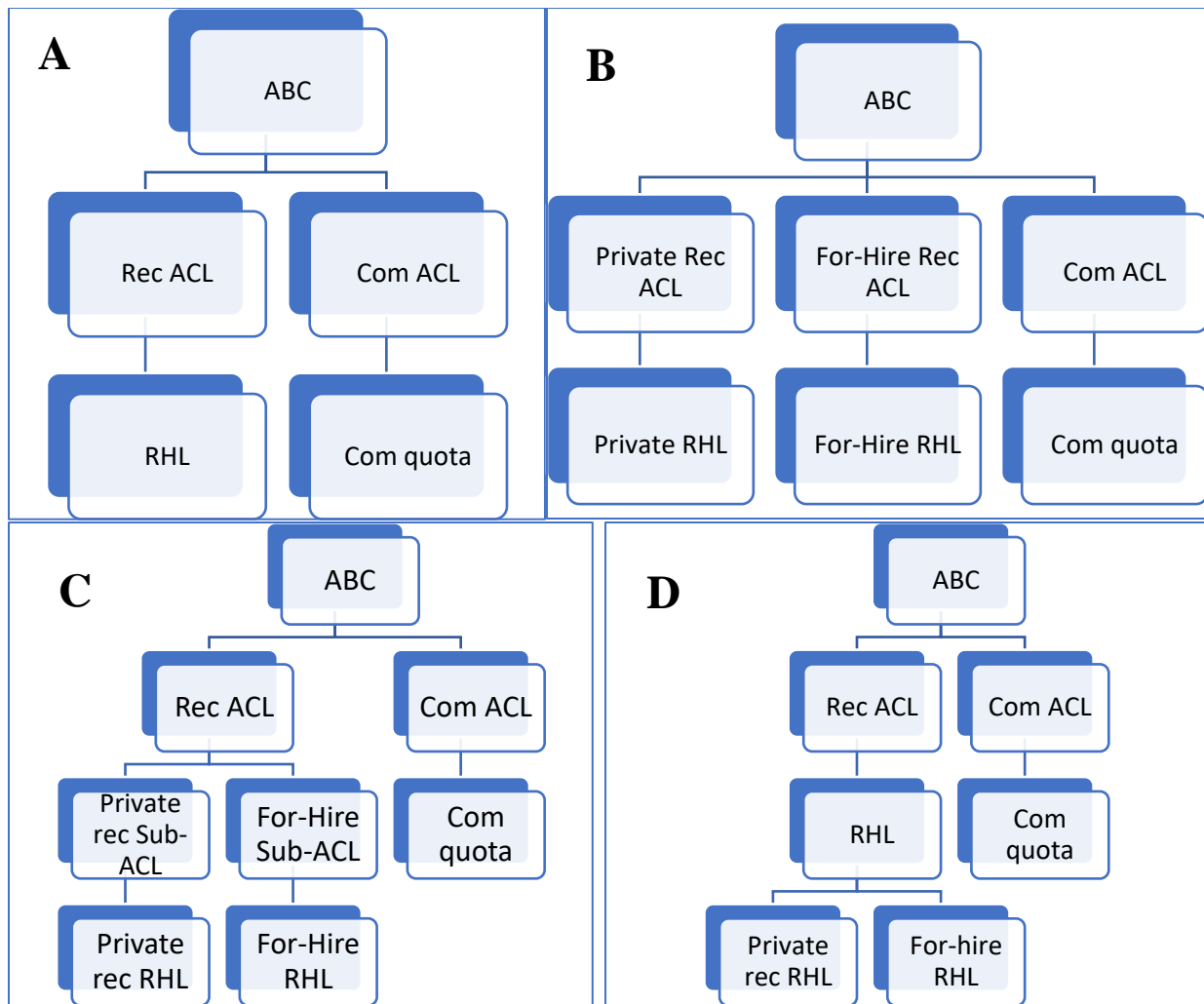


Figure 1: Conceptual flowcharts of potential recreational sector separation configurations including A) status quo, B) separate ACL allocations, C) sub-ACL allocations, and D) separate RHLs. This figure is based on the current management program for summer flounder, scup, and black sea bass. The commercial/recreational allocation for bluefish currently occurs at the ACT level.

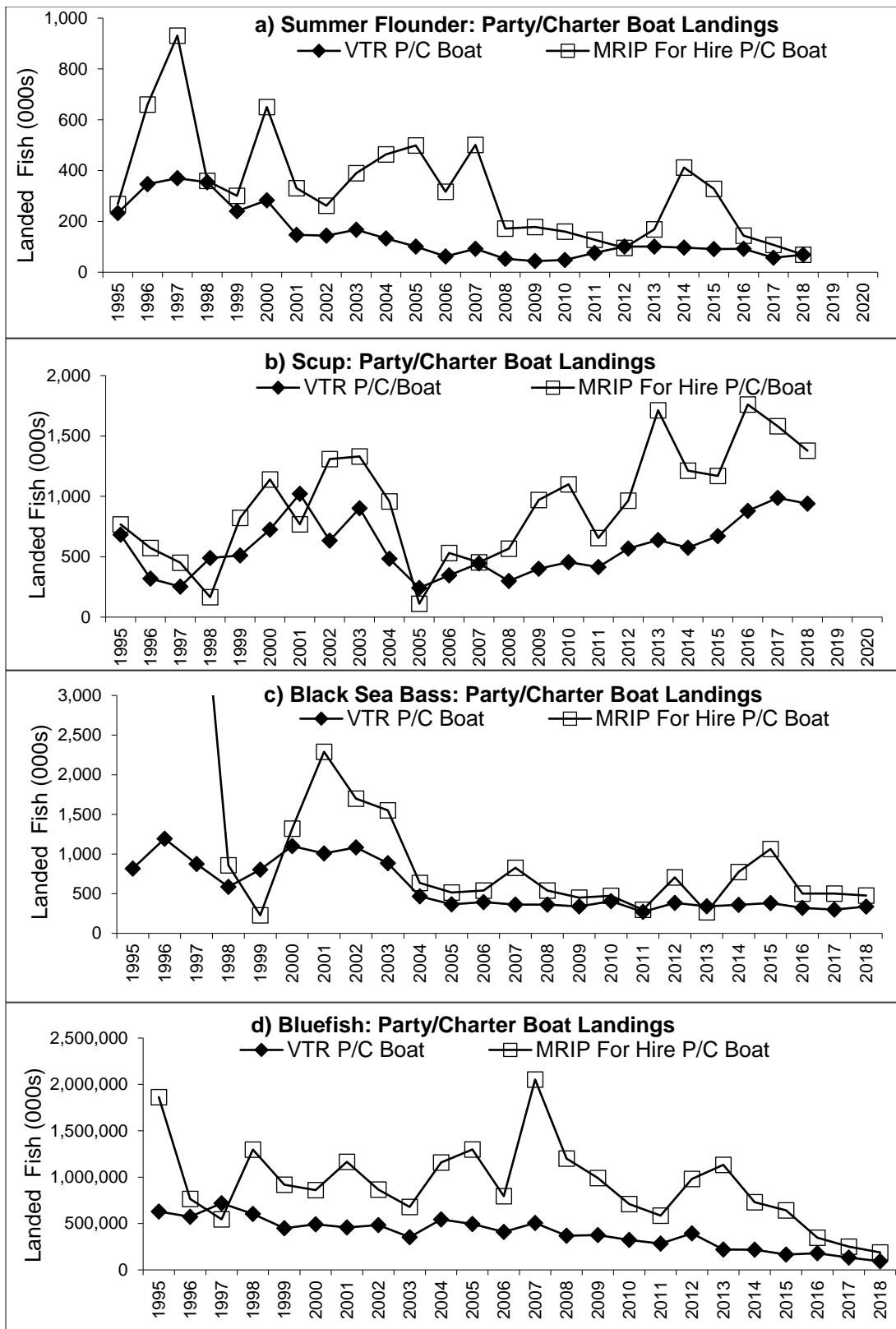


Figure 2: Comparison of federal party/charter vessel VTR estimates of landed fish vs. MRIP estimated for-hire landed fish, 1995-2018, for a) summer flounder, b) scup, c) black sea bass, and d) bluefish.

Table 4: Example approaches for calculating separate sub-allocations to private (i.e., private/rental and shore mode) and for-hire sectors, based on harvest in numbers of fish.

Species	Approach	Years	Private	For-Hire
Summer Flounder	5 most recent years through 2018	2014-2018	94%	6%
	10 most recent years through 2018	2009-2018	95%	5%
	15 most recent years through 2018	2004-2018	95%	5%
Scup	5 most recent years through 2018	2014-2018	89%	11%
	10 most recent years through 2018	2009-2018	88%	12%
	15 most recent years through 2018	2004-2018	88%	12%
Black Sea Bass	5 most recent years through 2018	2014-2018	86%	14%
	10 most recent years through 2018	2009-2018	87%	13%
	15 most recent years through 2018	2004-2018	82%	18%
Bluefish	5 most recent years through 2018	2014-2018	97%	3%
	10 most recent years through 2018	2009-2018	96%	4%
	15 most recent years through 2018	2004-2018	95%	5%

Table 5: MRIP PSEs for total catch in numbers of fish, North and Mid-Atlantic (Maine through Virginia) for summer flounder, scup, and black sea bass by mode, 2004-2019.

Year	Summer Flounder			Scup			Black Sea Bass		
	All For-Hire	Private/Shore	All modes	All For-Hire	Private/Shore	All modes	All For-Hire	Private/Shore	All modes
2004	13.8	5.9	5.7	28.4	15.4	14.4	19.7	16.3	14.2
2005	11.3	7.4	7.1	27.1	19.6	19.1	16.9	12.4	11
2006	16.8	8	7.7	18.1	16.1	15.4	15.3	11.1	9.8
2007	10.9	6.7	6.4	16.5	15.3	14.3	10.4	10.9	9.2
2008	10.1	6.5	6.3	16.8	11.6	10.5	9.5	15.7	14.4
2009	10.1	5.8	5.7	15.1	11.5	10.6	10.3	10.2	9.3
2010	12.6	6.8	6.7	24.8	10.4	9.8	12.0	23.2	21.8
2011	9.3	6.6	6.5	18.8	15.2	14.5	12.4	10.5	9.7
2012	9.9	11.3	11.1	16.4	12.3	11.3	10.1	9.7	9.1
2013	12.9	8.2	8.0	7.9	11.7	10.6	6.8	9	8.5
2014	18.2	8.6	8.2	17.8	10.5	9.7	13.5	8.4	7.6
2015	12.2	8	7.7	14.0	15.6	14.8	12.0	10.2	9.1
2016	8.5	8	7.8	10.6	10.5	10.0	7.1	8.5	7.9
2017	13.5	10.7	10.4	8.0	13.5	12.7	6.6	11.8	11.1
2018	8.7	6.6	6.4	9.2	8.6	8.1	9.6	6.3	5.7
2019	12.6	8.8	8.6	10.7	6.7	6.1	8.7	6.5	5.9
AVG	11.9	7.7	7.4	16.6	13.2	12.4	11.5	11.6	10.6

Recreational Catch Accounting

The theme of improved recreational catch accounting was prominent in many scoping comments for the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment. Examples of changes recommended through scoping are listed below. The intent behind these recommendations is to reduce uncertainty in the recreational data. It is worth noting that MRIP is currently considered the best scientific information available for the recreational fisheries and will continue to be used for stock assessments and catch limit evaluations for the foreseeable future. MRIP is a national-level program and the Council and Commission have a very limited ability to influence changes to the MRIP estimates.

- **Private angler reporting:** Private angler reporting has been explored in specific fisheries in other regions, and as of August 2020 is required in this region for bluegill and golden tilefish. Consideration could be given to the feasibility of private angler reporting for summer flounder, scup, black sea bass, and bluefish given that these fisheries take place in state and federal waters, from shore and from private and for-hire vessels, and that there are millions of directed trips per year for each species (e.g., an estimated 8.7 million angler trips for which summer flounder was the primary target, 2.7 million for which scup was the primary target, 1.4 million for which black sea bass was the primary target, and 5.3 million for which bluefish was the primary target in 2019). Given the scale of these recreational fisheries, mandatory private angler reporting may be a challenge to implement. Thorough consideration should be given to the potential levels of non-compliance and how this may impact the resulting data. Lessons learned from other private angler reporting programs should be evaluated and considered.
- **Tagging programs:** A few scoping comments suggested that anglers be issued tags for a specific number of fish each year. Tagging programs are used in some recreational fisheries, but they may be more appropriate for species with much lower harvest levels than summer flounder, scup, black sea bass, and bluefish. Consideration should be given to the pros and cons of moving forward with this approach compared to a traditional possession limit, especially considering the millions of targeted recreational trips for these species. Ensuring that the program is fair and equitable is a challenge. For example, consideration would need to be given to who receives tags, how they are distributed, and how the program is administered.
- **Mandatory tournament reporting:** A few scoping comments recommended mandatory catch reporting for recreational fishing tournaments. During the May 2020 joint meeting, one Council/Board member questioned the value of mandatory reporting for tournaments given that tournament catch likely constitutes a very small percentage of total catch. An evaluation of summer flounder, scup, black sea bass, and bluefish catch in tournaments has not been performed and may be complicated by the lack of a centralized list of tournaments which would catch these species. Tournament catch of these species is included in the MRIP estimates, but is not specifically designated as tournament catch.
- **Enhanced VTR requirements:** A few scoping comments recommended additional VTR requirements, such as requiring VTRs for for-hire vessels that do not have federal permits and reinstating “did not fish” reports for federal permit holders to better understand fishing effort.



Mid-Atlantic Fishery Management Council

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Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman

Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: January 22, 2021
To: Chris Moore, Executive Director
From: Julia Beaty, staff
Subject: Black Sea Bass Commercial State Allocation Amendment/Draft Addendum XXXIII

The Black Sea Bass Commercial State Allocation Amendment and Draft Addendum XXXIII consider modifications to the black sea bass commercial state allocations, as well as whether the state allocations should be included in the Council's FMP and changes to state quota overage paybacks and federal in-season closures.

In December 2020, the Council and the Atlantic States Marine Fisheries Commission's Summer Flounder, Scup, and Black Sea Bass Management Board (Board) met jointly to consider the addendum and amendment for final action. They voted to add the state allocations to the Council's Fishery Management Plan, and to modify the regulations such that a federal in-season closure would occur once landings are projected to exceed the coastwide quota plus an additional buffer of up to 5%. The Council and Board postponed decisions on modifying the state allocation percentages until their February 2021 joint meeting.

This tab contains the following materials to assist the Council and Board in taking final action on the state allocation percentages:

- 1) Draft Addendum XXXIII
- 2) Staff memo dated January 15, 2021 on recommendations for final action on state allocations

The following materials were provided for the December 2020 joint meeting and are available here: <https://www.mafmc.org/briefing/december-2020>.

- 1) Public comment summary
- 2) Summary of November 19, 2020 Advisory Panel meeting
- 3) Memo from Council staff on potential impacts of management alternatives
- 4) Additional comments from Advisory Panel members

Draft Addendum for Public Comment

Atlantic States Marine Fisheries Commission

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

Black Sea Bass Commercial Management



August 2020



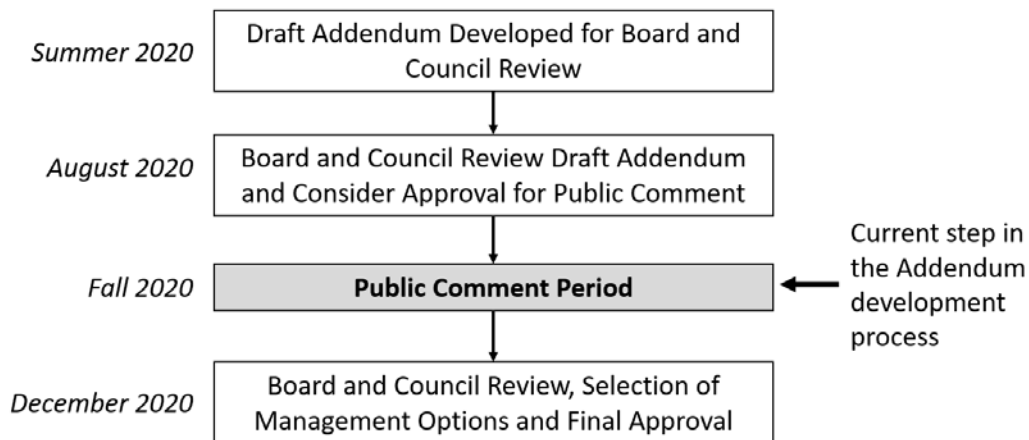
Sustainable and Cooperative Management of Atlantic Coastal Fisheries

Draft Addendum for Public Comment

Draft Addendum for Public Comment

Public Comment Process and Proposed Timeline

In October 2019, the Summer Flounder, Scup, and Black Sea Bass Management Board (Board) initiated development of Draft Addendum XXXIII to the Interstate Fishery Management Plan (FMP) for Summer Flounder, Scup, and Black Sea Bass. The Draft Addendum considers modifications to the black sea bass commercial state allocations. In December 2019, the Mid-Atlantic Fishery Management Council (Council) initiated a complementary amendment as a parallel action to the Board's Draft Addendum. The amendment will consider including the state specific commercial allocations in the Council FMP. This document presents background on black sea bass commercial management and a range of management options for public consideration and comment. The addendum process and expected timeline are below.



The public is encouraged to submit comments regarding this document at any time during the public comment period. The final date comments will be accepted is November 13, 2020 at 11:59 p.m. Comments may be submitted at state public hearings or by mail, email, or fax. If you have any questions or would like to submit comment, please use the contact information below. **All comments will be made available to both the Commission and Council for consideration; duplicate comments do not need to be submitted to both bodies.**

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

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

Tips for Providing Public Comment

We value your input, and to be most effective we request that your comment include specific details as to why you support or oppose a particular proposed management option. Specifically, address the following:

- Which proposed options/sub-options do you support, and which options/sub-options do you oppose?
- Why do you support or oppose the option(s)?
- Is there any additional information you think should be considered?

Draft Addendum for Public Comment

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Draft Addendum for Public Comment

1.0 Introduction

Draft Addendum XXXIII proposes alternative approaches for allocating the coastwide black sea bass commercial quota among the states¹. On October 9, 2019, the Atlantic States Marine Fisheries Commission's (Commission) Summer Flounder, Scup, and Black Sea Bass Management Board (Board) approved the following motion:

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

In December 2019, the Council initiated a complementary amendment as a parallel action to the Board's Draft Addendum, which will consider including the state specific commercial allocations in the Council FMP. These actions have two goals:

- To consider adjusting the current commercial black sea bass allocations using current distribution and abundance of black sea bass as one of several adjustment factors to achieve more balanced access to the resource. These adjustment factors will be identified as the development process moves forward.
- To consider whether the state allocations should continue to be managed only under the Commission's FMP or whether they should be managed under both the Commission and Council FMPs².

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

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

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

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

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

Draft Addendum for Public Comment

2.0 Overview

2.1 Statement of Problem

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

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

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

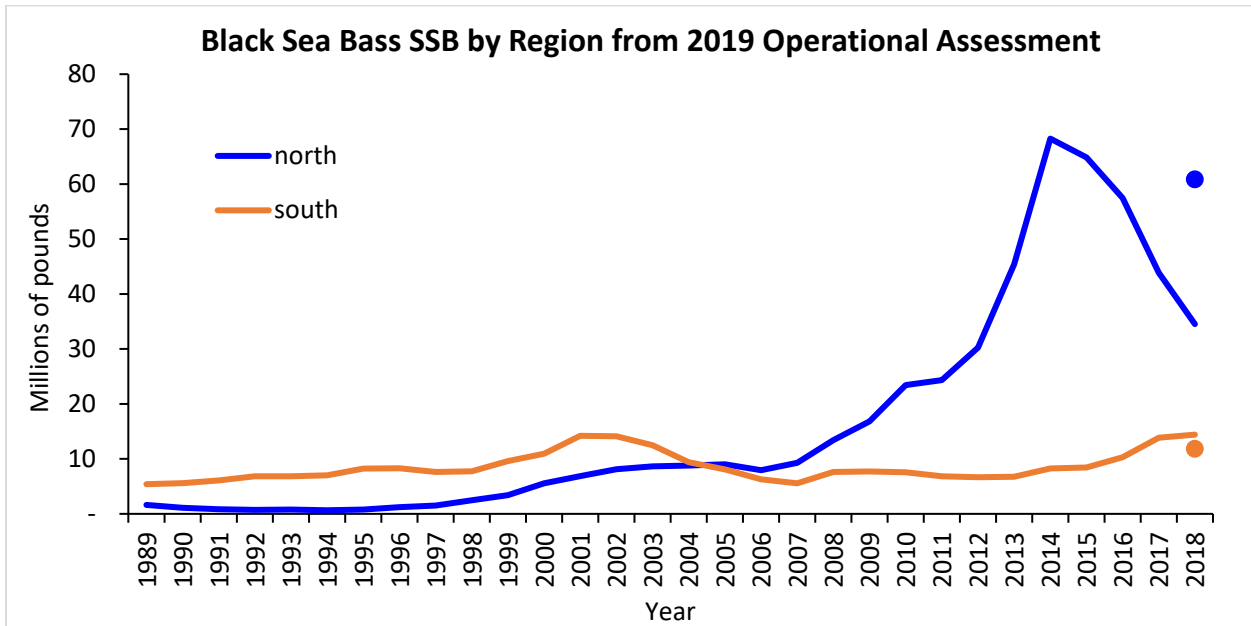


Figure 1. Black sea bass spawning stock biomass by region from the 2019 Operational Assessment Update. Open marks represent retro-adjusted values (used to set catch limits). Source: Personal communication with Northeast Fishery Science Center.

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2.2 Background

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

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

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

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

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

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

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

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

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

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

2.3 Status of the Stock

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

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

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data, research survey and fishery-dependent indices of abundance, and analyses of those data through 2018³. For modeling purposes, the stock was partitioned into two sub-units divided approximately at Hudson Canyon to account for spatial differences in abundance and size at age. The sub-units are not considered separate stocks. Although the stock was assessed by sub-unit, the combined results were used to develop reference points, determine stock status, and recommend fishery specifications.

Spawning stock biomass (SSB), which includes both mature male and female biomass, averaged around 8 million pounds during the late 1980s and early 1990s and then steadily increased from 1997 to 2002 when it reached 22.2 million pounds. From 2007 to 2014, SSB dramatically increased, reaching a peak in 2014 at 76.5 million pounds; since 2014 SSB has trended back down. After adjusting for retrospective error in the model, SSB in the terminal year (2018) is estimated at 73.6 million pounds, approximately 2.4 times the target SSB reference point (SSB_{MSY} proxy= $SSB_{40\%}$ = 31.1 million pounds) (Figure 2). The (similarly adjusted) fishing mortality rate (F) in 2018 was 0.42, about 91% of the fishing mortality threshold reference point (F_{MSY} proxy= $F_{40\%}$) of 0.46. Except for 2017, F has been below the F_{MSY} proxy for the last five years. Average recruitment of black sea bass from 1989 to 2018 was 36 million fish at age 1. The 2011 year class was estimated to be the largest in the time series at 144.7 million fish and the 2015 year class was the second largest at 79.2 million fish. Recruitment of the 2017 year class as age 1 in 2018 was estimated at 16.0 million, well below the time series average.

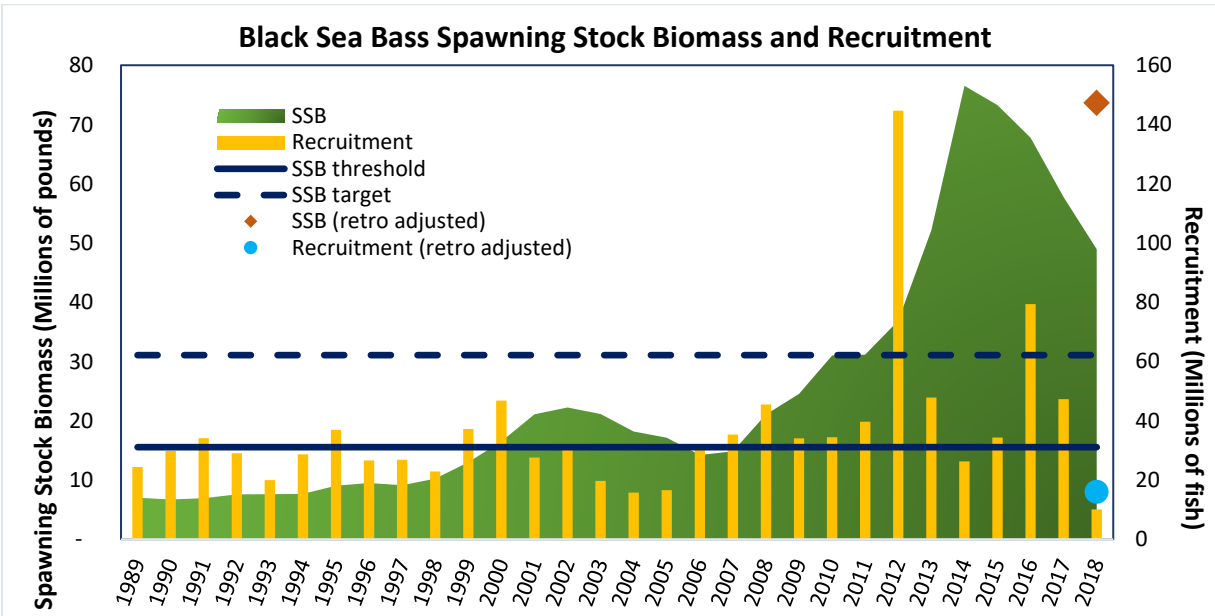


Figure 2. Black sea bass spawning stock biomass and recruitment. Source: 2019 Operational Assessment Prepublication Report, Northeast Fishery Science Center.

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

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2.4 Status of the Fishery

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

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

The average price per pound paid to fishermen by dealers for black sea bass (adjusted to 2019 values based on the Gross Domestic Product Price Deflator) appears to show an inverse relationship with landings in the southern region states (New Jersey - North Carolina) during 2010-2019 (i.e., price generally decreased with increases in landings, $p=0.002$). There did not appear to be a strong relationship between price and landings in the northern region (Maine - New York) during 2010-2019 ($p=0.498$, Figure 3). Some fishermen and dealers said temporary price drops can occur at both local and regional levels due to increases in the coastwide quota, state-specific seasonal openings, or individual trawl trips with high landings, all of which can be interrelated. They note that these sudden price drops are often temporary and the price usually rises again. This is evident in the coastwide relationship between average price per pound and the coastwide quota, which increased by 52% mid-year in 2017 and then decreased by 15% from 2017 to 2018. The average coastwide price per pound dropped from \$3.92 in 2016 to \$3.49 in 2017, but increased to \$3.82 in 2018 (all prices are adjusted to 2019 values based on the Gross Domestic Product Price Deflator).

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

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

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

The states have taken different approaches to managing their commercial black sea bass fisheries. Delaware, Maryland, and Virginia use Individual Transferable Quota (ITQ) systems, while other states utilize different combinations of quota periods, closed seasons, and initial or adjustable trip and possession limits to prevent quota overages⁴. For some states like Connecticut, quota availability and resulting management measures are highly dependent on quota transfers from other states. Some fishermen and dealers say they take these differences in state management measures into account when deciding when to fish, where to sell fish, and what price to offer for fish. For example, the price offered by local dealers may be higher when neighboring states are closed. Alternatively, some fishermen and dealers in comparatively low allocation states say they generally do not make business decisions based on black sea bass. Due to the low allocations in some states, black sea bass provides supplemental income for these fishermen and dealers, but is not a primary target species. For these reasons, the economic impacts of changes to state quotas can vary in part based on how states adjust their management measures in response to quota changes. For example, an increase in the possession limit could have different impacts than an extension of the open season. ITQ fishermen may be impacted differently than non-ITQ fishermen, and impacts may vary between gear types.

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

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

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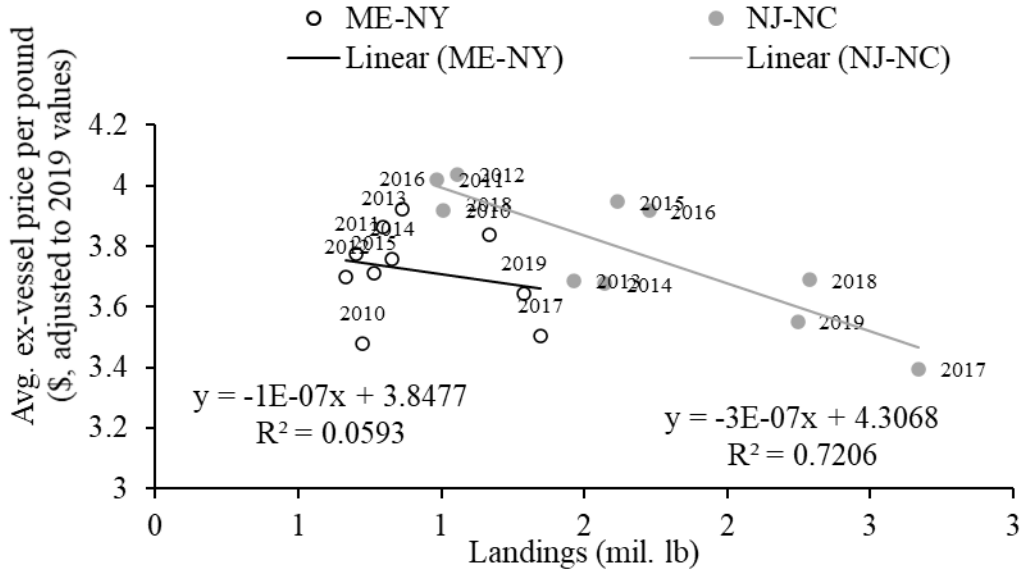


Figure 3. Average annual ex-vessel price per pound for black sea bass compared to annual black sea bass commercial landings by region (ME-NY and NJ-NC), 2010-2019, with associated linear relationship. Prices are adjusted to 2019 values based on the Gross Domestic Product Price Deflator. Data source: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

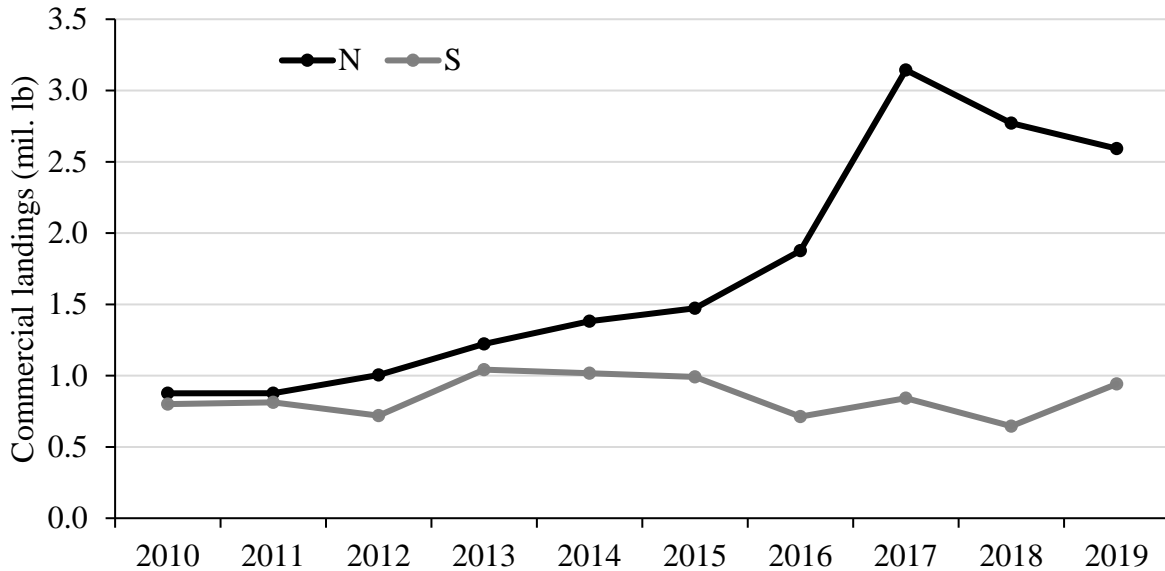


Figure 4. Total commercial black sea bass landings, 2010-2019, Maine through North Carolina, by region of catch location (North or South). Region is assigned based on statistical area of catch using the delineation defined in the stock assessment. Landings with an unknown statistical area were assigned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

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3.0 Proposed Management Program

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

3.1 Management Options for Commercial State Allocations

A. Status Quo (Current Commercial State Allocations)

This option would maintain the current state allocation percentages (Table 1).

B. Increase Connecticut Quota to 5%

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

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

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

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Table 2. Proposed changes in state allocations.

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

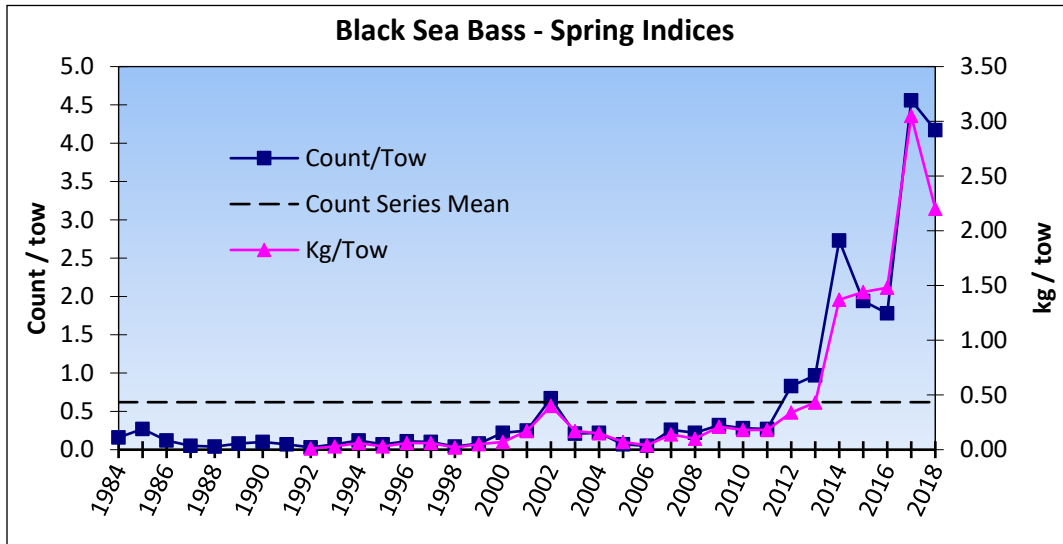


Figure 5. Connecticut Long Island Sound Trawl Survey Spring Black Sea Bass Index

C. Dynamic Adjustments to Regional Allocations

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

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assessments or surveys⁵. This approach recognizes traditional involvement and investment in the development of the fishery, and addresses the changing distribution of the stock and the resulting effects within the fishery.

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

After the transition phase is complete, the relative importance of the initial allocations and current stock distribution in determining the allocations would be fixed, but allocations would continue to be adjusted when updated stock distribution information becomes available. The DARA approach proposes use of the 2019 operational stock assessment results (NEFSC, 2019) and additional stock assessments thereafter to determine the values for regional stock distribution⁶. Taking into account the initial allocations and regional stock distribution, the two components are integrated to produce dynamic regional allocation shares, which are then subdivided into state-specific allocations. The formulas for calculating regional and state shares can be found in Appendix 2.

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

Sub-options for Dynamic Adjustments to Regional Allocations Approach

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

1. Final relative importance of initial allocations versus resource distribution

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

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

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

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

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

2. Change in relative weights of each factor per adjustment

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

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

3. Frequency of weight adjustments

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

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

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

4. Regional allocation adjustment cap

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

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

D. Trigger Approach

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

Trigger Approach Sub-options

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

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

1. Trigger value

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

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

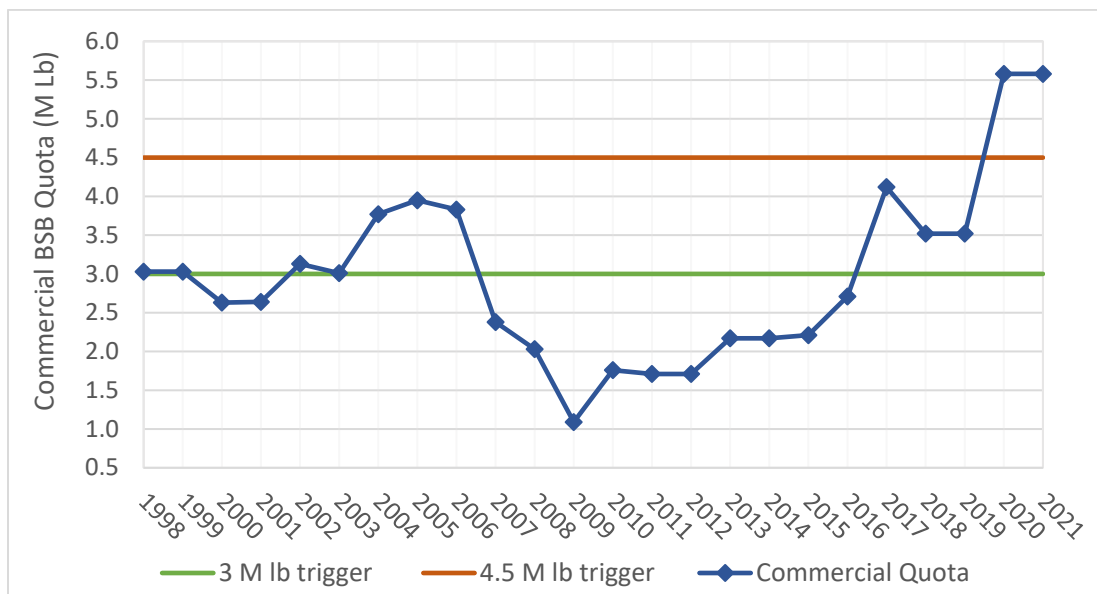


Figure 6. Black sea bass commercial quotas over time compared to 3 million, 4 million and 4.5 million pound triggers. Note that the Board and Council may recommend revisions to the 2021 quota during their August 2020 meeting.

2. Distribution of surplus quota

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

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

- **Sub-option D2-B: Distribution of surplus quota based on regional biomass from stock assessment**

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

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

- **Sub-option D3-A: Even distribution of regional surplus quota**

Regional surplus quota would be distributed to the states within each region equally. ME and NH would each receive 1% of the northern region surplus quota. Examples of this allocation approach are provided in Appendix 3 (examples 3 and 5).

- **Sub-option D3-B: Proportional distribution of regional surplus quota**

Regional surplus quota would be distributed to the states within each region in proportion to their initial allocations (see sub-option set D4). ME and NH would each receive 1% of the northern region surplus quota.

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

- **Sub-option D4-A: Static base allocations**

Under, this sub-option, the quota up to and including the trigger amount would be allocated based on the initial base allocations every year (status quo, or the modified allocations proposed in Option B). Examples of this allocation approach are provided in Appendix 3 (examples 1-3).

- **Sub-option D4-B: Dynamic base allocations**

Under this option, the quota up to and including the trigger amount would be allocated according to the previous year's final state allocations. This sub-option has the potential to change allocations more quickly than the static base allocations sub-option. Examples of this allocation approach are provided in Appendix 3 (examples 4-6).

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

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

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

F. Percentage of Coastwide Quota Distributed Based on Initial Allocations

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

Percentage Approach Sub-options

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

1. Percentage of quota to be allocated using initial allocations

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

- **Sub-option F1-A: 25%**

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

- **Sub-option F1-B: 75%**

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

2. Distribution of remaining quota

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

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

- **Sub-option F2-B: Distribution of remaining quota based on regional biomass from stock assessment**

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

3. Distribution of regional quota to states within a region

(Only applicable if Sub-option F2-B is selected)

- **Sub-option F3-A: Even distribution of regional quota**

Remaining quota would be distributed to the states within each region equally, except ME and NH would each receive 1% of the northern region quota.

- **Sub-option F3-B: Proportional distribution of regional quota**

Remaining quota would be distributed to the states within each region in proportion to their initial allocations, except ME and NH would each receive 1% of the northern region quota.

G. Regional Configuration Options

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

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

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

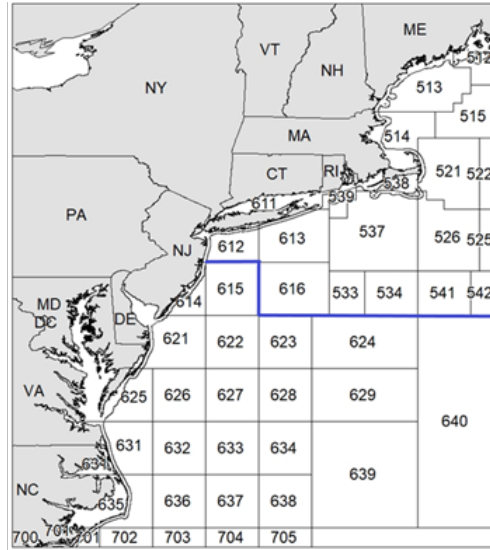


Figure 7. NMFS statistical areas showing the dividing line between the northern and southern regions as defined in the black sea bass stock assessment.

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

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

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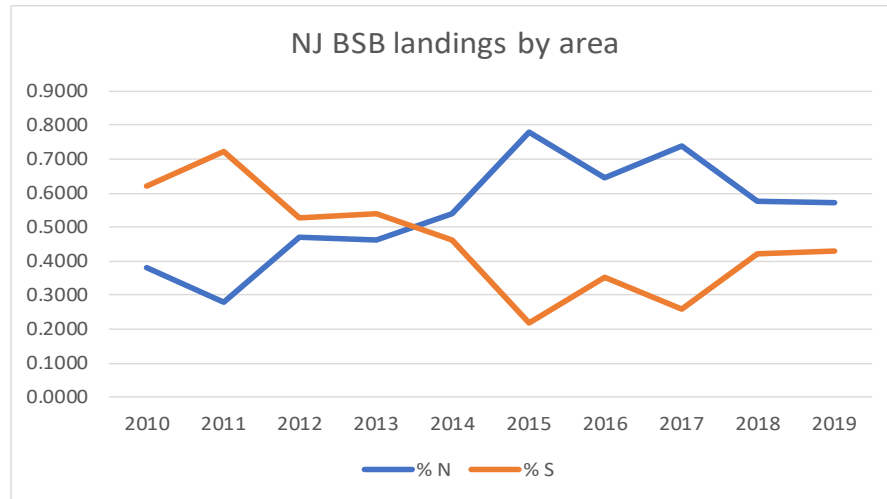


Figure 8. Proportion of black sea bass commercial harvest landed in New Jersey from northern and southern region statistical areas by year.

3.2 Management Options for Changes to Federal Regulations

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

3.2.2 Options for adding state commercial allocations to the Council FMP

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

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

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

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

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

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for a state to submit routine transfer requests is the close of business on December 16. While the Commission allows for transfers at the end or after the fishing season to help states balance quota overages, NOAA Fisheries would likely not allow for such transfers unless the overage was unforeseen in the last two weeks of the fishery; the burden of proof would then be on the state to justify the transfer. Lastly, the Commission is able to approve and finalize transfers within a day or two of receiving the request, while quota transfers through NOAA Fisheries may take several weeks to be finalized.

If this option is selected, the following sub-options could modify the Council's FMP to establish how overages of state quotas are handled.

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

3.2.2 Options for federal in-season closures

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

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

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

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

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

Under this option, the entire commercial fishery would close in-season for all federally permitted vessels and dealers, regardless of state, once landings exceed the coastwide quota plus an additional buffer of up to 5%. The Council and Board would agree to the appropriate buffer for the upcoming year through the specifications process. The intent

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behind allowing an additional buffer is to help minimize negative economic impacts of coastwide closures on states that have not fully harvested their allocations. This is not expected to create an incentive for quota overages as states would still be required to close when their state-specific quotas are reached and states would still be required to pay back quota overages (see sub-option set above).

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

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

4.0 Compliance

TBD

5.0 Literature Cited

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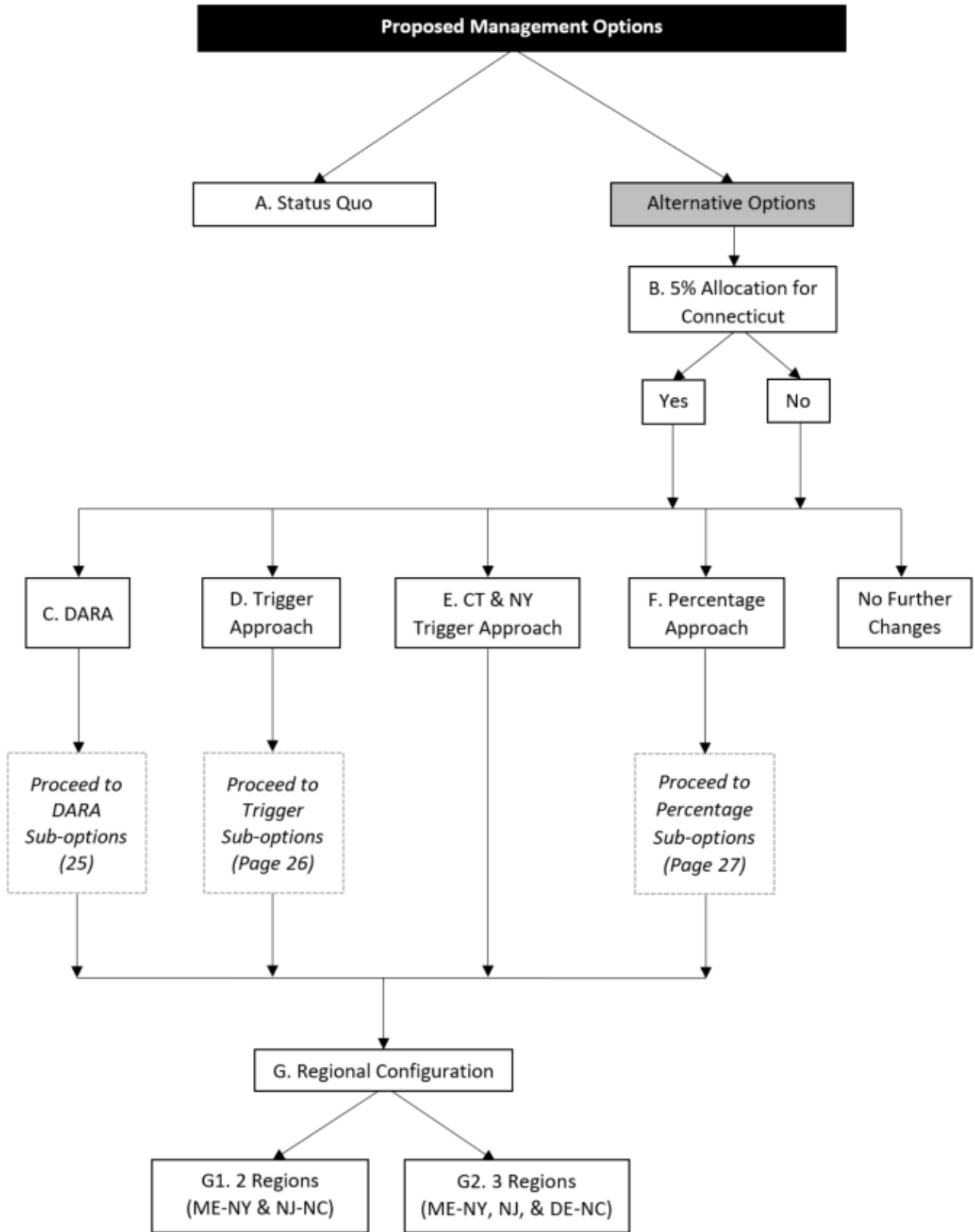
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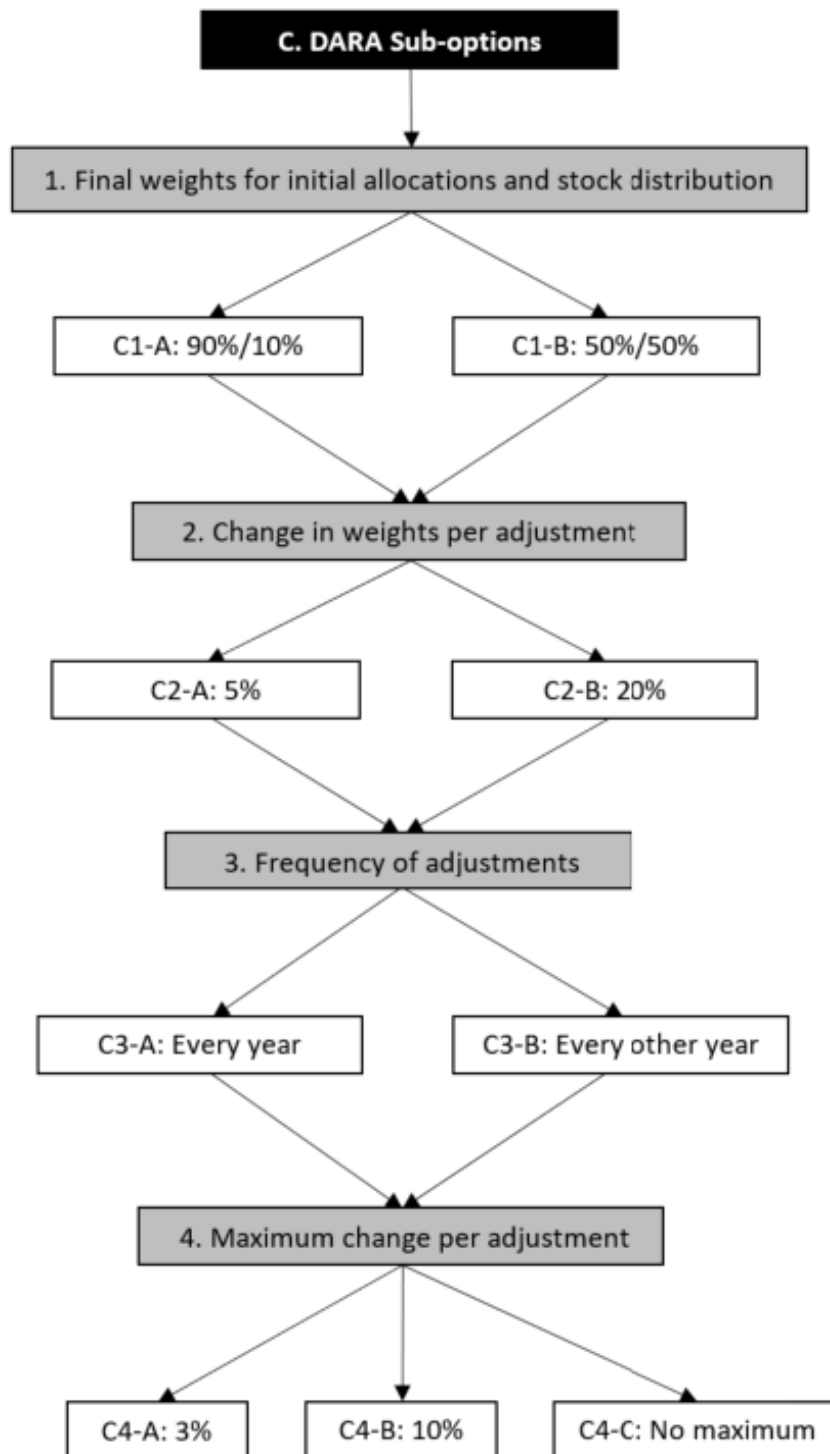
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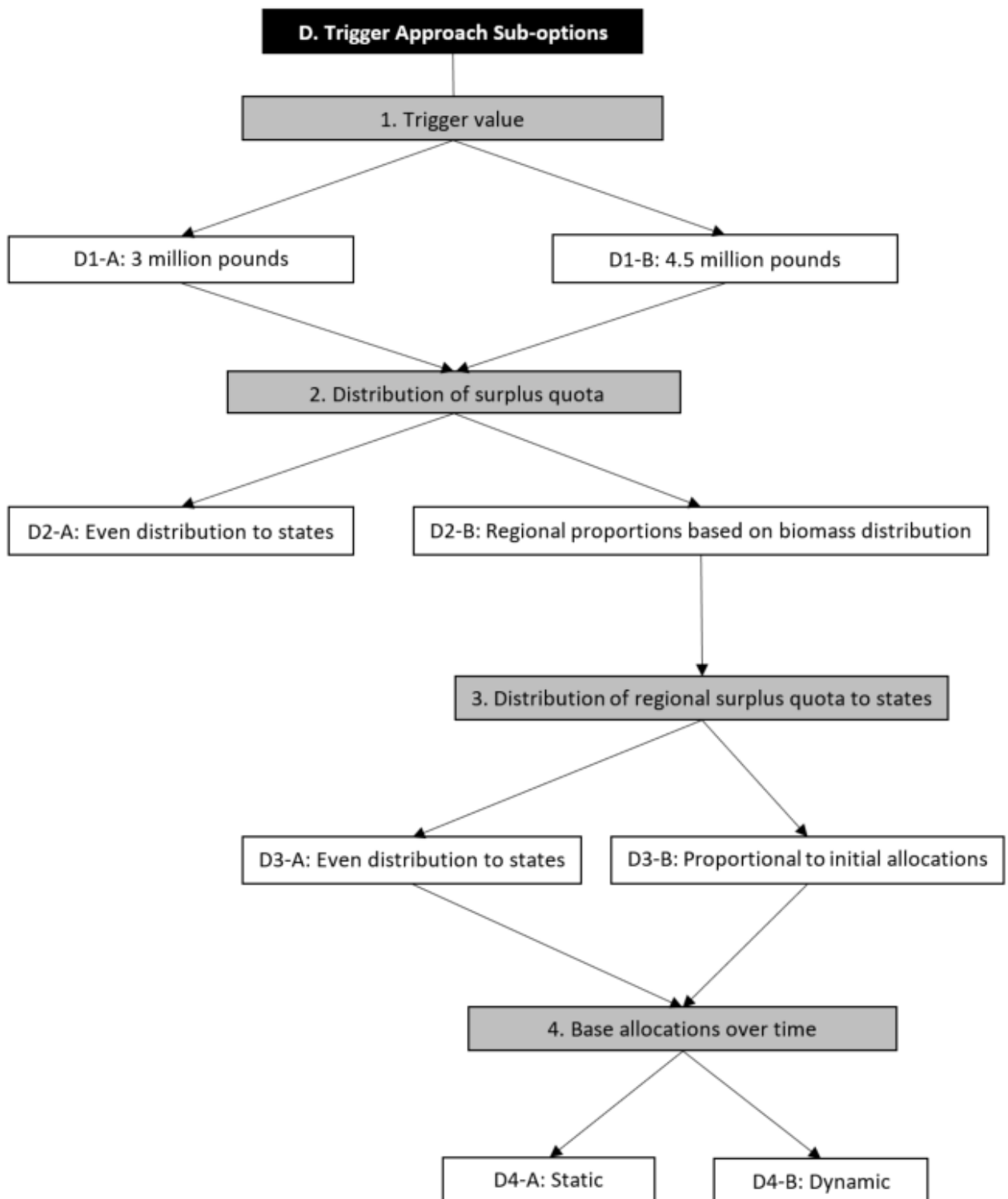
Appendix 1. Flowchart of Management Options for Commercial State Allocations



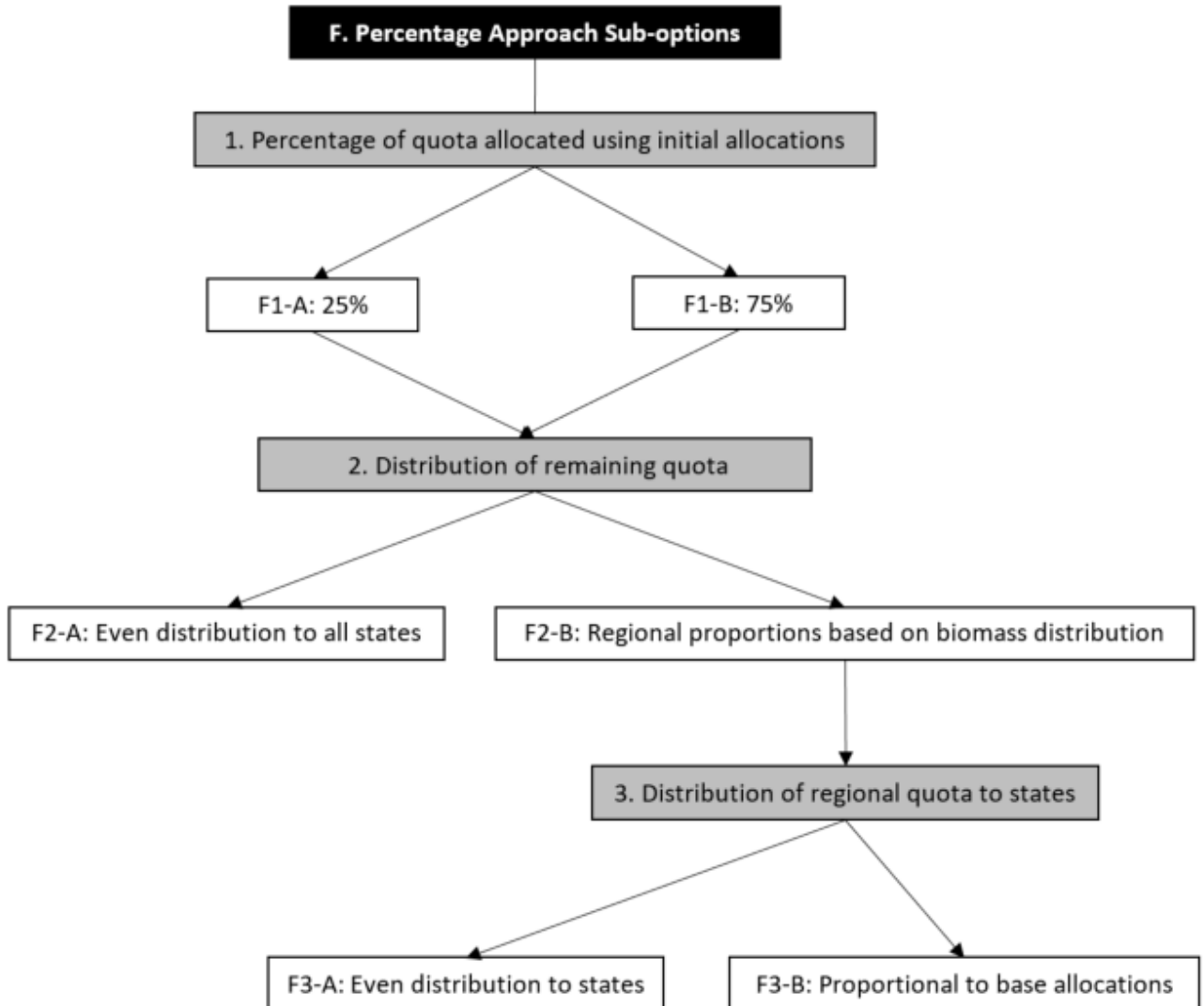
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Proposed New Allocation Alternative For Black Sea Bass: Dynamic Adjustment to Regional Allocations (DARA)

Black Sea Bass PDT

17 July 2020

Introduction

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

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

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

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

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

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

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

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

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

Data and Methods

Formula

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

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

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

Proposed regions:

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

Proposed values for historical participation/initial allocation:

See Initial Allocation section below.

Proposed values for stock distribution:

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

Proposed percentage weighting values for initial allocation and stock distribution:

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

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

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

Proposed periodicity of the adjustments:

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

Overall time horizon for the transition:

The initial proposal would conclude in 9 years. If commenced in 2020, it would conclude in 2028. The duration is dependent on the other options chosen

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

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

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

Initial Allocations

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

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

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

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

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

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

Stock Distribution

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

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

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

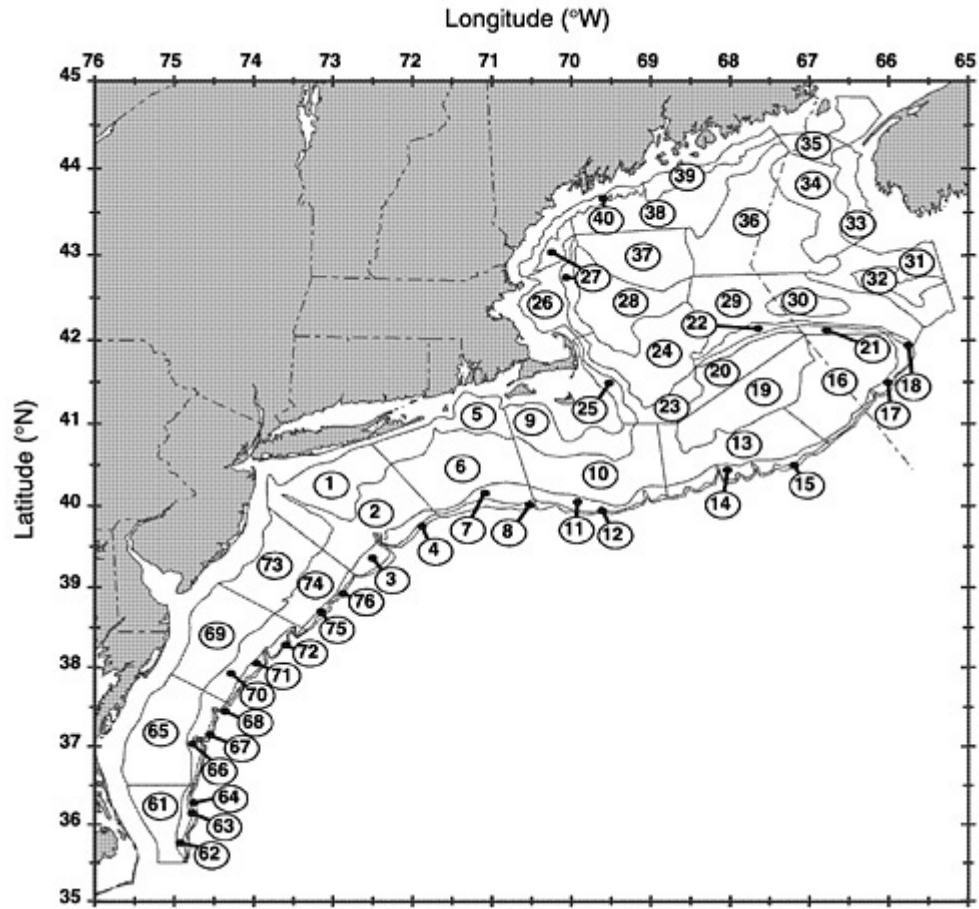


Figure 1: Map of National Marine Fisheries Service trawl survey strata.

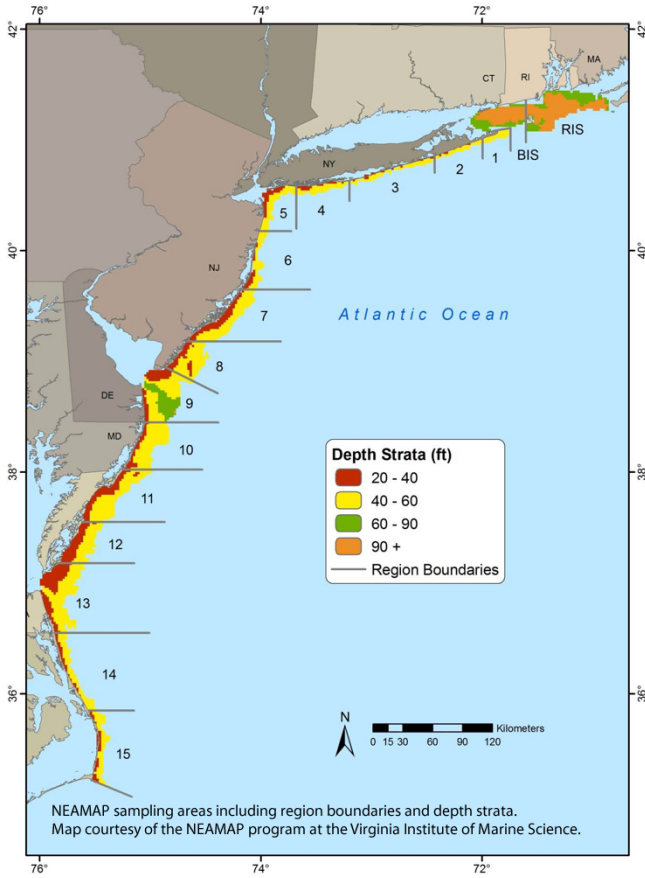


Figure 2: Map of North East Area Monitoring and Assessment Program trawl survey strata.

Table 1 - Strata or Region assigned to each region for stock distribution calculations.

Regions	NMFS Strata	NEAMAP Regions
Region 1: ME - NY	1 - 40	1 - 5, BIS, RIS
Region 2: NJ - NC	3, 61 - 76	6 - 15

*Note: This is a first cut, these should be finalized through discussions between the TC and survey staff.

This approach could be refined over time by developing area polygons that better align with the boards desired regional configuration. Then, using the spatial information from the surveys, the survey information could be partitioned into the polygons.

Additionally, there may be ways to use state survey information within the analysis – either directly by averaging those surveys into the swept area biomass calculations, or indirectly such as using them to verify or corroborate the information from the surveys used in the calculations. Such use of state survey information could be developed and integrated into the process over time via analysis and recommendations from the monitoring and technical committees.

A robust, locally weighted regression algorithm (Cleveland 1979), referred to as LOESS, could then be used to mitigate excessive variations in sampling results. Per the TMGC approach, a 30% smoothing parameter could be used. That level of smoothing was chosen because it reflected current trends, was responsive to changes, and provided the most appropriate results for contemporary resource sharing. The recommended

default of two robustness iterations also was adopted (Cleveland 1979) in the TMGC approach and could also be adopted here. Stock distributions could then be updated annually by incorporating data from the latest survey year available and dropping data from the earliest survey used in the previous year so that a consistent window of data is maintained. After the surveys are combined, the LOESS smoother would be applied to the survey data. The fixed initial allocation (90% weighting in year 1) and the most recent stock distributions as calculated by the surveys (10% weighting in year 1) can then be applied to the sharing formula to determine regional allocation shares for the upcoming fishing year.

The benefit of this approach is that it could be performed annually with the most contemporary data. The drawback is that survey data are prone to variability. The LOESS smoothing and the adjustment cap that is set forth below are designed to account for some of this variability to keep it from causing unreasonable changes in a single year.

As a final nuance to the survey alternative, a sophisticated modeling approach could be developed to achieve the same information as above. Techniques like the use of the VAST model (Thorson 2015) have been shown to be appropriate for this type of an analysis and could be adopted, in lieu of the swept area biomass technique, as a method for calculating stock distribution by region.

For this proposal, the assessment technique will be used as there is actual data that can be used to examine an example. With additional work, a retrospective analysis using trawl survey information could be developed.

Adjustment cap

In addition to the formula for calculating the regional allocations and then translating into the state specific allocations, additional measures could be added by way of an adjustment cap. Such measures would enable various checks and balances to be incorporated into the process to guard against unintended consequences.

One such algorithm, proposed here, is to guard against any abrupt change occurring to any regional allocation in any given year (or other time frame), and thus minimize short-term impacts, by capping the amount of any annual or bi-annual change to the regional shares anywhere between 3 - 10%. This can be shown as:

$$\%RegionalShare = \begin{cases} 3to10\%, & \text{if } \Delta AnnualChange > 3to10\% \\ \%RegionalShare, & \text{if } \Delta AnnualChange \leq 3to10\% \end{cases} \quad (1)$$

The effect would be to ensure that any changes to allocations occur incrementally, even in a case of large shifts in stock distribution in any given year or period. This algorithm serves as an additional layer of protection against large changes, in addition to the other factors outlined above that are also built in to contend with uncertainty and variability.

Flexibility

A key attribute of this proposed new approach for modifying the allocation system is its flexibility. All of the decision points set forth in this proposal, once agreed to, can be adjusted as the process moves forward. Such adjustments, emanating from routine reviews by the Board and Council, can address any of the range of parameters initially set by the Board and Council. The Board and Council could define how changes to the system would be considered and enacted moving forward - e.g., via Addenda and Frameworks, the specifications process, or some other mechanism. The ranges of parameters/issues that readily lend themselves to such adjustment include:

- The α and β parameters can be adjusted to change the way the utilization and distribution are weighted in the equation;
- The increment of change in the α and β parameters can be adjusted to increase or decrease the transition speed;
- The initial state allocations can be set at status quo, or shifted to accommodate various objectives; and
- The adjustment cap can be adjusted to be more or less protective of incremental changes.

Given such flexibility, the Board and Council could decide to implement a transition program that begins in 2021, with either current, status quo allocations, or some variant thereof, and based on assessment information through 2018 (same information used for the proposed 2019 operational stock assessment update), establish stock distribution values for each of the two regions. Using those parameters, and a weighting of allocations by 90% and stock distribution by 10%, enact new, slightly revised state-specific allocations for 2021. If the Board and Council opted for a transitional program involving 10% annual increments, until the weightings reached 10% utilization from initial allocations and 90% stock distribution, this sharing formula would transition from a 90:10 initial allocation-to-stock distribution weighting in 2021 to a 10:90 weighting by 2029. During every adjustment, the trawl survey information would be updated and factored into the stock distribution values. As such, each regional and associated state-specific adjustment would not necessarily be the same, whether in magnitude or direction.

Alternatively, the Board and Council could opt for a transitional program involving 10% increments every two years, or 5% annual increments, or 5% increments every two years, etc. Those alternatives would significantly slow the transition. Some of these variants are illustrated below as examples.

Example

The following are examples of how the new approach can be applied; it incorporates various proposed or strawman parameters, all of which can be modified upon review and consideration by the Board and Council:

- The assessment information is used to calculate the Stock Distribution values.
- Step 1: Apply the state-specific allocations and stock distribution information to equation 1.
 - Summed state allocations for Region 1 (sum of ME-NY)

```
sum.reg1
```

```
## [1] 0.33
```

- Summed state allocation for Region 2 (NJ - NC)

```
sum.reg2
```

```
## [1] 0.67
```

- Step 2: Apply the Stock Distribution information to equation 1.
 - Strawman values:

```
dist.reg1 = 0.76
```

```
dist.reg2 = 0.24
```

- Step 3: Select the increment of adjustment, which will determine the α and β parameters for equation 1 for year 1:
 - The initial sharing formula is proposed to be based on an annual 10% adjustment resulting in the weighting of historical allocations by 90% and the weighting of stock distribution by 10%. Thus:

```
alpha = 0.9
```

```
beta = 0.1
```

- Step 4: Calculate the results, in the form of proportional regional shares, from equation 1:

```
# Region 1 equation and result
```

```
Reg1.Share = (alpha*sum.reg1) + (beta*dist.reg1)
```

```
Reg1.Share
```

```
## [1] 0.373
```



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

```
## [1] 0.627
```

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

- Step 5: Determine need to apply the adjustment cap

```
# Algorithm
if (abs(Reg1.Share-sum.reg1) > 0.1 | abs(Reg2.Share-sum.reg2) > 0.1 ) {
  if (Reg1.Share-sum.reg1 > 0) {
    Reg1.Share = (sum.reg1*(0.1))+sum.reg1
    Reg2.Share = (sum.reg2*(-0.1))+sum.reg2
  }
  if (Reg2.Share-sum.reg2 > 0) {
    Reg1.Share = (sum.reg1*(-.1))+sum.reg1
    Reg2.Share = (sum.reg2*(0.1))+sum.reg2
  }
}
}
```

– As proposed, the rule would cap any change at 10%. Since none of the resulting shares change by more than 10%, the algorithm would not apply in this case.

- Step 6: Establish the state-specific allocation structure to be pro-rated by the regional shares. This example **does not** apply a λ value to alter the allocations per equation 3.
 - The state-specific allocations could be the current, status quo allocations; or they could be variants, established via equation 3.

Table 2 - Current state by state allocations.

State	Current Allocation
Maine	0.005
New Hampshire	0.005
Massachusetts	0.130
Rhode Island	0.110
Connecticut	0.010
New York	0.070
New Jersey	0.200
Delaware	0.050
Maryland	0.110
Virginia	0.200
North Carolina	0.110

Four hypothetical examples of state-specific allocations under the new program were performed and are presented below (Tables 3, 4, and 5; Figures 3, 4, and 5).

Example 1: The first example represents a configuration resulting in more liberal change in state allocations. The parameters are set as follows: 2 regions (ME - NY; NJ - NC); initial allocation = status quo allocations ; transition from 90:10 to 10:90; 10% per year change in the transition from utilization to distribution; annual adjustments; the transition time to 90% weight on the stock distribution is 9 years; 10% adjustment cap; distribution assumption is based on the exploitable biomass by region from the assessment for the time period of 2004 - 2012; distribution of adjustments to states within a region are based on initial allocations.

Example 2: The second example represents a more conservative configuration, with more limited changes to state allocations. The parameters are set as follows: 2 regions (ME - NY; NJ - NC); initial allocation = status quo allocations; transition from 90:10 to 30:70; 5% per year change in the transition from utilization to distribution; annual adjustments; the transition time to 70% weight on the stock distribution is 12 years; 3% adjustment cap; distribution assumption is based on the exploitable biomass by region from the assessment for the time period of 2004 - 2015; distribution of adjustments to states within a region are based on initial allocations.

Example 3: The final example is intended to showcase a number of additional modifications that could be made to the approach to achieve certain objectives. In discussions amongst the PDT (and previously the Board regarding recreational black sea bass) it has been noted that it may be appropriate to treat New Jersey as an individual region due to its geographic position straddling the division of the Northern and Southern regions adjacent to Hudson Canyon. Additionally, this option increases the allocations for Connecticut and New York due to their allocations being disproportionate to their current resource availability (as defined in Equation 3 above). Lastly, the PDT discussed the option of holding Maine and New Hampshire's current allocations static throughout the transaction. To demonstrate these modifications, the parameters are set as follows: 4 regions (ME and NH remaining as a non-dynamic region with static allocations; MA - NY; NJ as a stand-alone region; and DE - NC); initial allocation = CT and NY base allocations increased by 1% in each of the first three years; transition from 90:10 to 10:90; 10% per year change in the transition from utilization to distribution; annual adjustments; the transition time to 90% weight on the stock distribution is 9 years; 10% adjustment cap; distribution assumption is based on the exploitable biomass by region from the assessment for the time period of 2004 - 2012, and assumes NJ gets 10% of its allocation from the northern region distribution and 10% of its allocation from the southern region distribution; distribution of adjustments to states within a region are based on initial allocations plus the incremental change as noted above.

The allocations presented in these tables would be different if any of the parameters were changed. Additionally, note that these examples are based on a scenario where the approach was implemented in 2004. The example shows how the system would work and the effects to the states over the initial period of adjustment from initial allocation having the highest weight in the equation to stock distribution having the highest weight during a period of time where the exploitable biomass was rapidly changing.

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

State	2004	2005	2006	2007	2008	2009	2010	2011	2012
Maine	0.005	0.006	0.006	0.007	0.008	0.008	0.009	0.011	0.011
New Hampshire	0.005	0.006	0.006	0.007	0.008	0.008	0.009	0.011	0.011
Massachusetts	0.137	0.147	0.158	0.174	0.195	0.210	0.238	0.275	0.293
Rhode Island	0.116	0.125	0.134	0.147	0.165	0.178	0.201	0.233	0.248
Connecticut	0.011	0.011	0.012	0.013	0.015	0.016	0.018	0.021	0.023
New York	0.074	0.079	0.085	0.094	0.105	0.113	0.128	0.148	0.158
New Jersey	0.195	0.187	0.179	0.167	0.151	0.139	0.119	0.090	0.076
Delaware	0.049	0.047	0.045	0.042	0.038	0.035	0.030	0.023	0.019
Maryland	0.107	0.103	0.098	0.092	0.083	0.077	0.065	0.050	0.042
Virginia	0.195	0.187	0.179	0.167	0.151	0.139	0.119	0.090	0.076
North Carolina	0.107	0.103	0.098	0.092	0.083	0.077	0.065	0.050	0.042

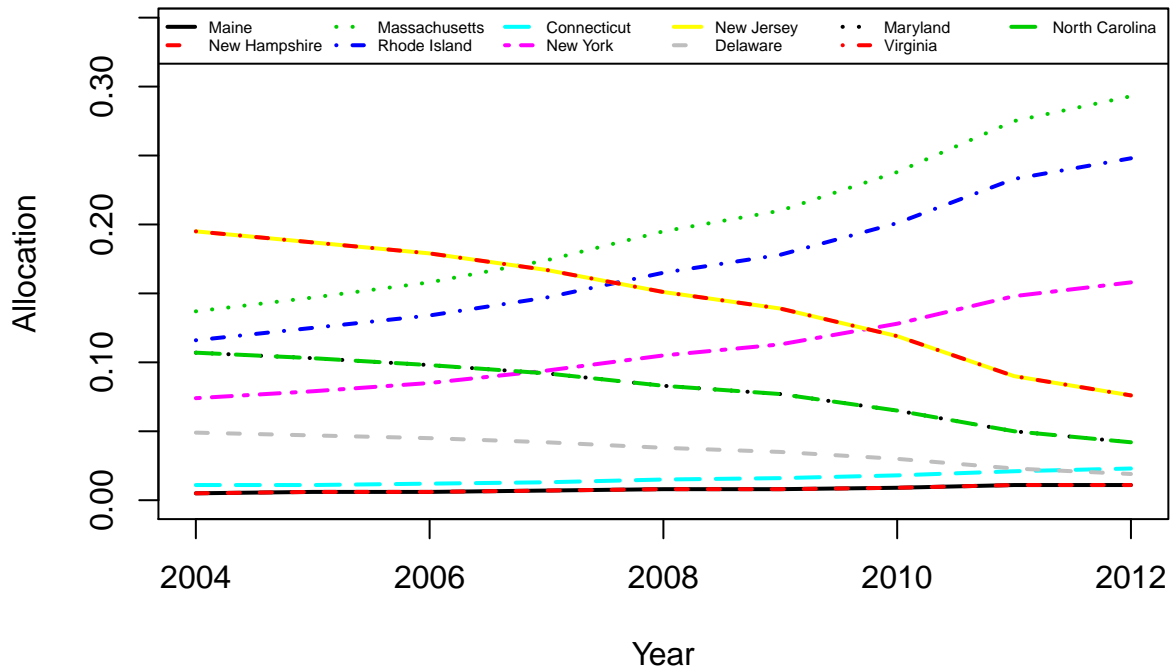


Figure 3: Allocation trajectory for all states under the parameters outlined in example 1 above. The adjustment cap is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

Table 4 - Allocation trajectory for all states under the parameters outlined in example 2 above. The adjustment cap is triggered in each year from 2012 through 2015 in this example. This is a retrospective analysis as if this method were in place beginning in 2004. The adjustment cap is triggered in 2012 - 2015 in this example.

State	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Maine	0.005	0.005	0.006	0.006	0.006	0.007	0.007	0.007	0.007	0.007	0.008	0.008
New Hampshire	0.005	0.005	0.006	0.006	0.006	0.007	0.007	0.007	0.007	0.007	0.008	0.008
Massachusetts	0.134	0.139	0.144	0.152	0.162	0.170	0.176	0.182	0.187	0.193	0.198	0.205
Rhode Island	0.113	0.117	0.122	0.129	0.137	0.144	0.149	0.154	0.159	0.163	0.168	0.173
Connecticut	0.010	0.011	0.011	0.012	0.012	0.013	0.014	0.014	0.014	0.015	0.015	0.016
New York	0.072	0.075	0.078	0.082	0.088	0.092	0.095	0.098	0.101	0.104	0.107	0.110
New Jersey	0.197	0.193	0.189	0.183	0.175	0.170	0.164	0.159	0.154	0.150	0.145	0.141
Delaware	0.049	0.048	0.047	0.046	0.044	0.042	0.041	0.040	0.039	0.037	0.036	0.035
Maryland	0.109	0.106	0.104	0.101	0.096	0.093	0.090	0.087	0.085	0.082	0.080	0.077
Virginia	0.197	0.193	0.189	0.183	0.175	0.170	0.164	0.159	0.154	0.150	0.145	0.141
North Carolina	0.109	0.106	0.104	0.101	0.096	0.093	0.090	0.087	0.085	0.082	0.080	0.077

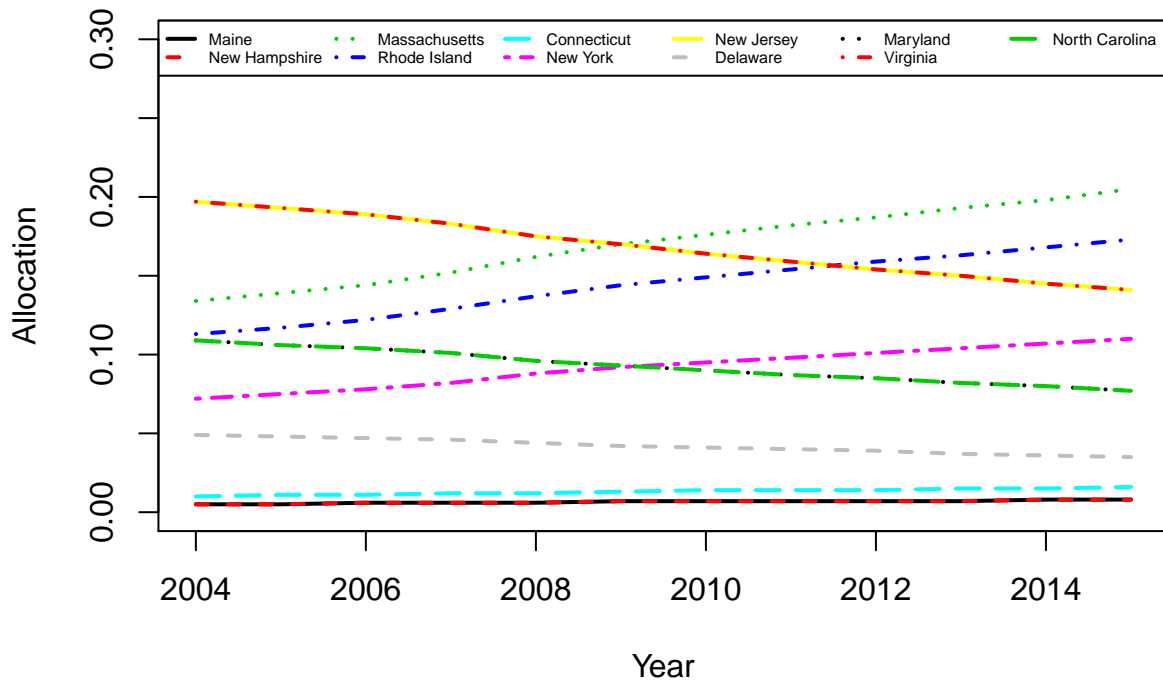


Figure 4: Allocation trajectory for all states under the parameters outlined in example 2 above. The adjustment cap is triggered in each year from 2012 through 2015 in this example. This is a retrospective analysis as if this method were in place beginning in 2004. The adjustment cap is triggered in 2012 - 2015 in this example.

Table 5 - Allocation trajectory for all states under the parameters outlined in example 3 above. The adjustment cap is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

State	2004	2005	2006	2007	2008	2009	2010	2011	2012
Maine	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
New Hampshire	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Massachusetts	0.128	0.125	0.122	0.131	0.143	0.154	0.171	0.190	0.200
Rhode Island	0.108	0.105	0.102	0.109	0.120	0.128	0.143	0.159	0.167
Connecticut	0.020	0.030	0.040	0.043	0.047	0.051	0.056	0.063	0.066
New York	0.081	0.090	0.100	0.108	0.118	0.127	0.141	0.157	0.164
New Jersey	0.194	0.194	0.195	0.197	0.199	0.201	0.210	0.213	0.216
Delaware	0.046	0.043	0.040	0.037	0.033	0.030	0.025	0.019	0.017
Maryland	0.105	0.100	0.098	0.090	0.081	0.073	0.061	0.047	0.041
Virginia	0.193	0.187	0.184	0.170	0.152	0.138	0.115	0.089	0.077
North Carolina	0.105	0.100	0.098	0.090	0.081	0.073	0.061	0.047	0.041

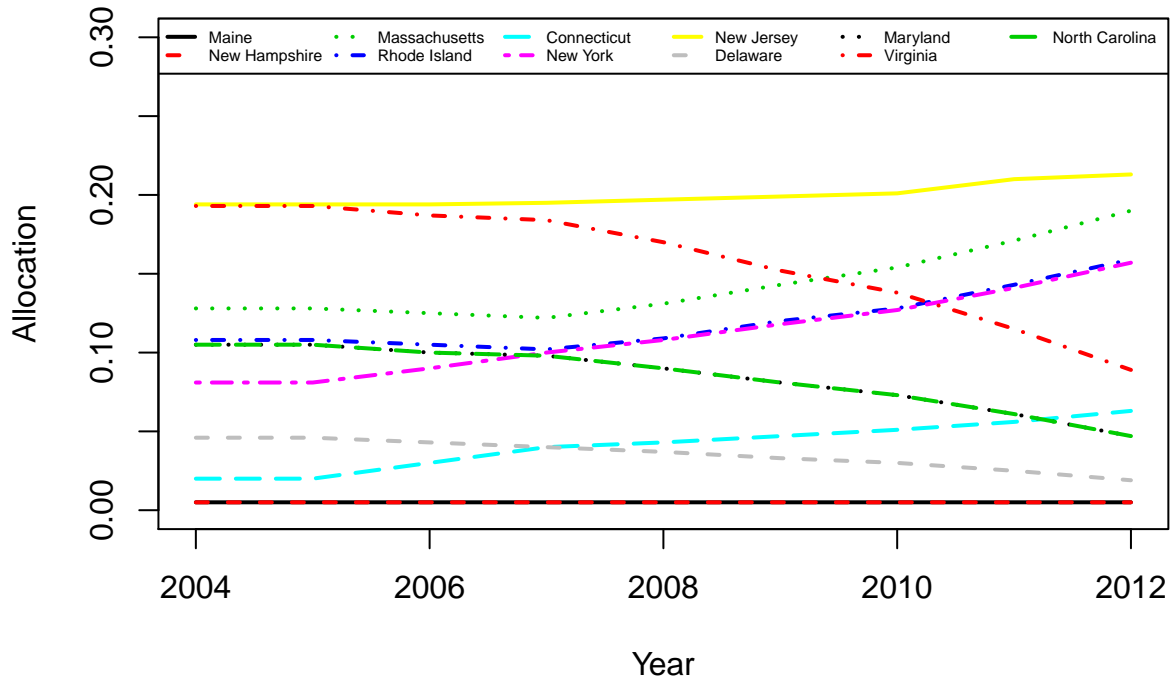


Figure 5: Allocation trajectory for all states under the parameters outlined in example 3 above. The adjustment cap is not triggered in any year in this example. This is a retrospective analysis as if this method were in place beginning in 2004.

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Appendix 3. Example changes in allocation distribution under various trigger and percentage approaches

Appendix X Examples			
Example	Option	Trigger/Percentage	Approach
1-A	Trigger	3 million	Static trigger with surplus allocated regionally and proportional to states' initial allocations
1-B	Trigger	3 million	1-A, if one year's quota is below the trigger
2	Trigger, Three regions	3 million	Static trigger with surplus allocated regionally and proportional to states' initial allocations with NJ as a third region
3	Trigger	3 million	Static trigger with surplus allocated regionally and equally between states
4-A	Trigger	3 million	Dynamic trigger with surplus allocated regionally and proportional to states' base allocations
4-B	Trigger	3 million	4-A, if one year's quota is below the trigger
5	Trigger	3 million	Dynamic trigger with surplus allocated regionally and equally between states
6	Trigger	4.5 million	Dynamic trigger with surplus allocated regionally and proportional to states' base allocations
7-A	Trigger with Increase to CT and NY First	3 million	Static trigger with surplus allocated regionally and proportional to states' initial allocations
7-B	Trigger with Increase to CT and NY First	3 million	7-A, if one year's quota is below the trigger
8	Percentage	25%	Surplus allocated equally between states
9	Percentage	25%	Surplus allocated regionally and equally between the states
10	Percentage	25%	Surplus allocated regionally and proportional to states' initial allocations
11	Percentage	75%	Surplus allocated regionally and equally between the states
12	Percentage	75%	Surplus allocated regionally and proportional to states' initial allocations

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EXAMPLE 1-A

Trigger Value: 3 million pounds

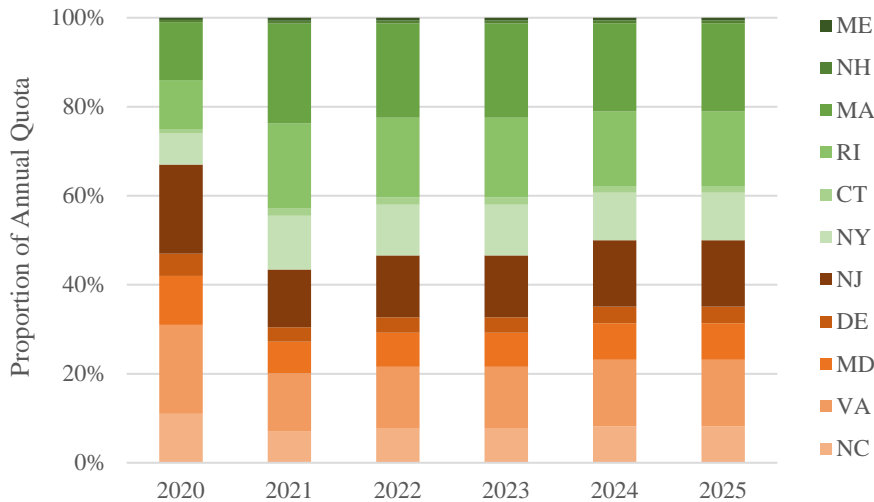
Base allocations: Static

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to initial allocations.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	22.5%	21.2%	21.2%	19.8%	19.8%
RI	11.0%	19.0%	17.9%	17.9%	16.8%	16.8%
CT	1.0%	1.7%	1.6%	1.6%	1.5%	1.5%
NY	7.0%	12.1%	11.4%	11.4%	10.7%	10.7%
NJ	20.0%	13.0%	13.9%	13.9%	14.9%	14.9%
DE	5.0%	3.2%	3.5%	3.5%	3.7%	3.7%
MD	11.0%	7.1%	7.7%	7.7%	8.2%	8.2%
VA	20.0%	13.0%	13.9%	13.9%	14.9%	14.9%
NC	11.0%	7.1%	7.7%	7.7%	8.2%	8.2%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	53.4%	53.4%	50.0%	50.0%
South	67.0%	43.4%	46.6%	46.6%	50.0%	50.0%



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EXAMPLE 1-B (1-A approach with one year's quota under the trigger)

Trigger Value: 3 million pounds

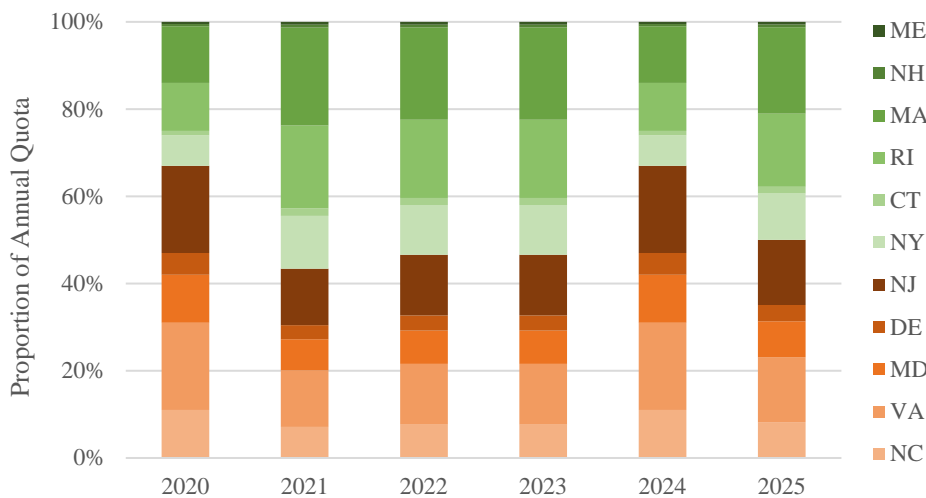
Base allocations: Static

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to initial allocations.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	2,800,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.6%	0.6%	0.5%	0.6%
NH	0.5%	0.7%	0.6%	0.6%	0.5%	0.6%
MA	13.0%	22.5%	21.2%	21.2%	13.0%	19.8%
RI	11.0%	19.0%	17.9%	17.9%	11.0%	16.8%
CT	1.0%	1.7%	1.6%	1.6%	1.0%	1.5%
NY	7.0%	12.1%	11.4%	11.4%	7.0%	10.7%
NJ	20.0%	13.0%	13.9%	13.9%	20.0%	14.9%
DE	5.0%	3.2%	3.5%	3.5%	5.0%	3.7%
MD	11.0%	7.1%	7.7%	7.7%	11.0%	8.2%
VA	20.0%	13.0%	13.9%	13.9%	20.0%	14.9%
NC	11.0%	7.1%	7.7%	7.7%	11.0%	8.2%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	53.4%	53.4%	33.0%	50.0%
South	67.0%	43.4%	46.6%	46.6%	67.0%	50.0%



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EXAMPLE 2

Trigger Value: 3 million pounds

Base allocations: Static

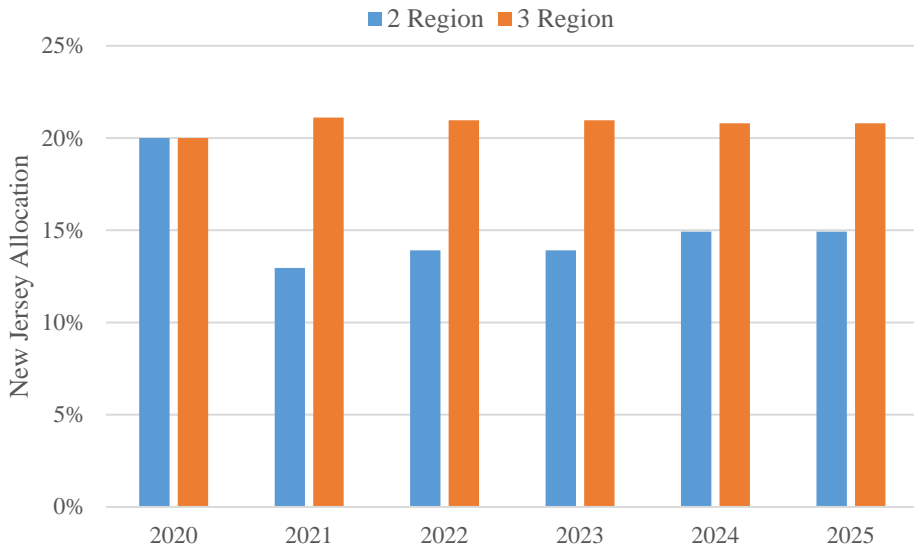
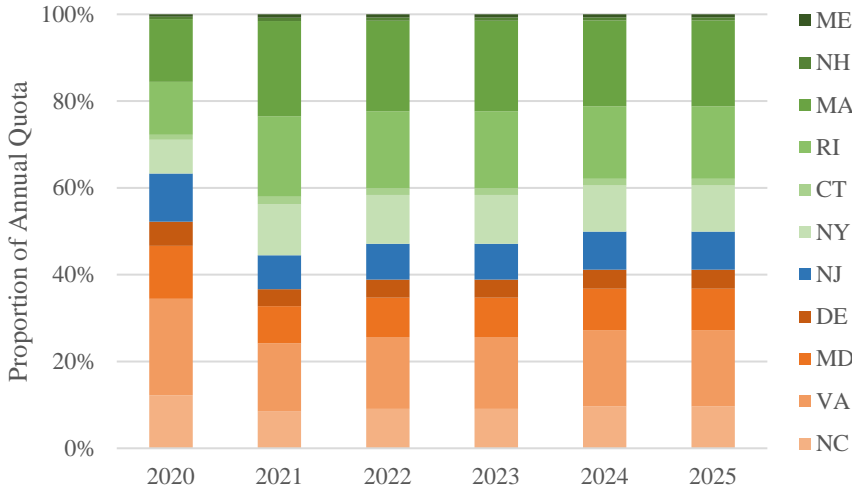
Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to initial allocations.

Regional configuration: ME-NY, NJ, DE-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	18.8%	18.0%	18.0%	17.2%	17.2%
RI	11.0%	15.9%	15.2%	15.2%	14.5%	14.5%
CT	1.0%	1.4%	1.4%	1.4%	1.3%	1.3%
NY	7.0%	10.1%	9.7%	9.7%	9.2%	9.2%
NJ	20.0%	21.1%	21.0%	21.0%	20.8%	20.8%
DE	5.0%	3.3%	3.6%	3.6%	3.8%	3.8%
MD	11.0%	7.3%	7.8%	7.8%	8.4%	8.4%
VA	20.0%	13.3%	14.2%	14.2%	15.2%	15.2%
NC	11.0%	7.3%	7.8%	7.8%	8.4%	8.4%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	47.5%	45.6%	45.6%	43.5%	43.5%
NJ	20.0%	21.1%	21.0%	21.0%	20.8%	20.8%
South	47.0%	31.4%	33.5%	33.5%	35.7%	35.7%

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The above Figure provides a comparison of NJ’s percent allocation under the 2 region configuration provided in Example 1 (blue bars) and the 3 region configuration provided in Example 2 (orange bars). All other variables are held constant between Example 1-A and Example 2.

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EXAMPLE 3

Trigger Value: 3 million pounds

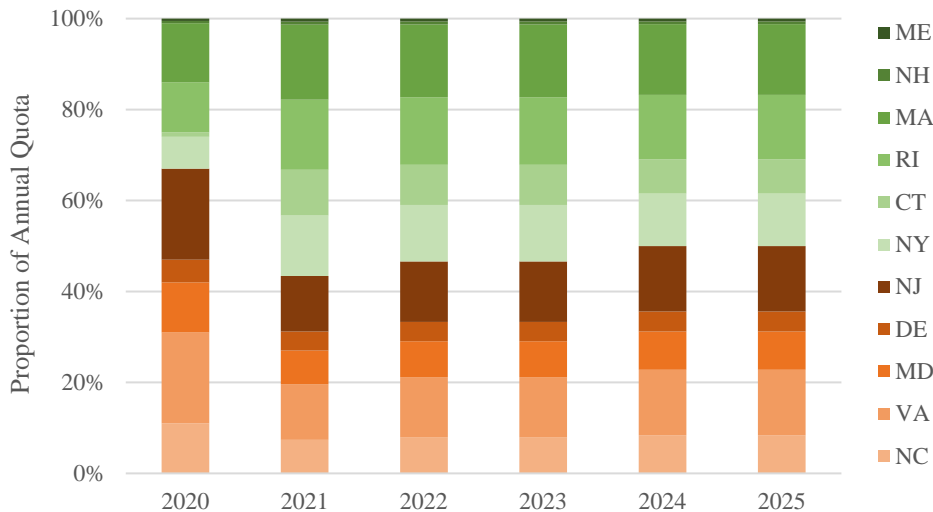
Base allocations: Static

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated equally to each state.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.7%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	16.5%	16.0%	16.0%	15.5%	15.5%
RI	11.0%	15.4%	14.8%	14.8%	14.2%	14.2%
CT	1.0%	10.1%	8.8%	8.8%	7.5%	7.5%
NY	7.0%	13.3%	12.4%	12.4%	11.5%	11.5%
NJ	20.0%	12.2%	13.3%	13.3%	14.4%	14.4%
DE	5.0%	4.2%	4.3%	4.3%	4.4%	4.4%
MD	11.0%	7.4%	7.9%	7.9%	8.4%	8.4%
VA	20.0%	12.2%	13.3%	13.3%	14.4%	14.4%
NC	11.0%	7.4%	7.9%	7.9%	8.4%	8.4%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	53.4%	53.4%	50.0%	50.0%
South	67.0%	43.4%	46.6%	46.6%	50.0%	50.0%



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EXAMPLE 4-A

Trigger Value: 3 million pounds

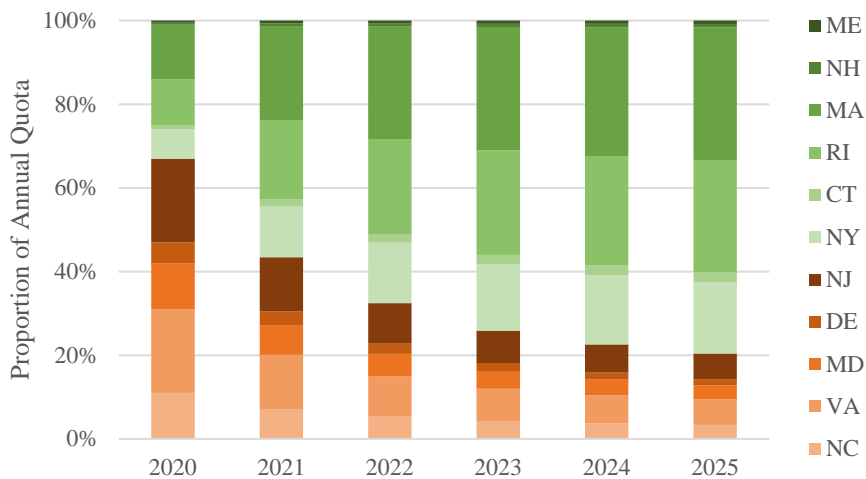
Base allocations: Dynamic

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to base allocations.

Regional configuration: ME-NY and NJ-NC.

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
NH	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
MA	13.0%	22.5%	26.8%	29.5%	30.8%	31.7%
RI	11.0%	19.0%	22.7%	24.9%	26.1%	26.8%
CT	1.0%	1.7%	2.1%	2.3%	2.4%	2.4%
NY	7.0%	12.1%	14.5%	15.9%	16.6%	17.1%
NJ	20.0%	13.0%	9.7%	7.7%	6.7%	6.1%
DE	5.0%	3.2%	2.4%	1.9%	1.7%	1.5%
MD	11.0%	7.1%	5.3%	4.2%	3.7%	3.3%
VA	20.0%	13.0%	9.7%	7.7%	6.7%	6.1%
NC	11.0%	7.1%	5.3%	4.2%	3.7%	3.3%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	67.5%	74.1%	77.4%	79.6%
South	67.0%	43.4%	32.5%	25.9%	22.6%	20.4%



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EXAMPLE 4-B (4-A approach with one year's quota under the trigger)

Trigger Value: 3 million pounds

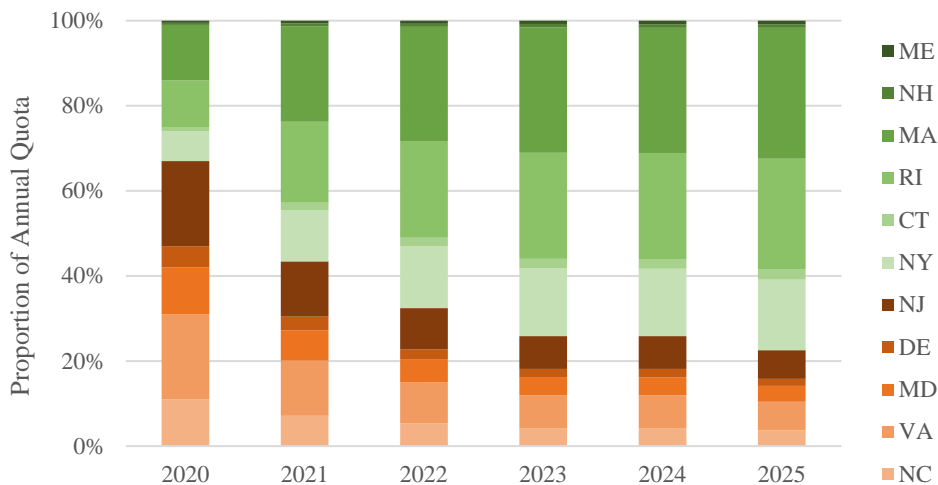
Base allocations: Dynamic

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to base allocations.

Regional configuration: ME-NY and NJ-NC.

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	2,800,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
NH	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
MA	13.0%	22.5%	26.8%	29.5%	29.5%	30.8%
RI	11.0%	19.0%	22.7%	24.9%	24.9%	26.0%
CT	1.0%	1.7%	2.1%	2.3%	2.3%	2.4%
NY	7.0%	12.1%	14.5%	15.9%	15.9%	16.6%
NJ	20.0%	13.0%	9.7%	7.7%	7.7%	6.7%
DE	5.0%	3.2%	2.4%	1.9%	1.9%	1.7%
MD	11.0%	7.1%	5.3%	4.2%	4.2%	3.7%
VA	20.0%	13.0%	9.7%	7.7%	7.7%	6.7%
NC	11.0%	7.1%	5.3%	4.2%	4.2%	3.7%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	67.5%	74.1%	74.2%	77.4%
South	67.0%	43.4%	32.5%	25.9%	25.8%	22.6%



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EXAMPLE 5

Trigger Value: 3 million pounds

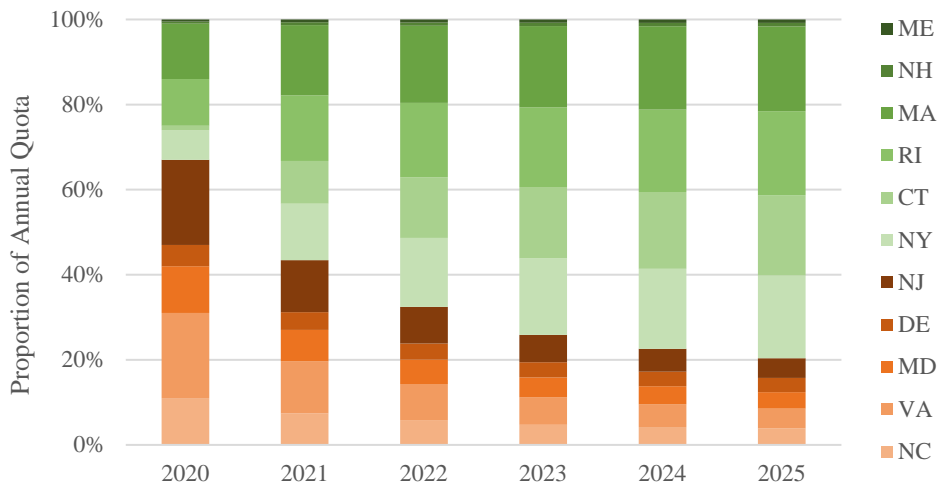
Base allocations: Dynamic

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated equally to each state.

Regional configuration: ME-NY and NJ-NC.

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
NH	0.5%	0.7%	0.7%	0.8%	0.8%	0.8%
MA	13.0%	16.5%	18.1%	19.1%	19.6%	19.9%
RI	11.0%	15.4%	17.5%	18.7%	19.3%	19.8%
CT	1.0%	10.1%	14.3%	16.8%	18.1%	18.9%
NY	7.0%	13.3%	16.2%	18.0%	18.8%	19.4%
NJ	20.0%	12.2%	8.6%	6.5%	5.4%	4.6%
DE	5.0%	4.2%	3.8%	3.5%	3.4%	3.4%
MD	11.0%	7.4%	5.7%	4.7%	4.2%	3.9%
VA	20.0%	12.2%	8.6%	6.5%	5.4%	4.6%
NC	11.0%	7.4%	5.7%	4.7%	4.2%	3.9%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	56.6%	67.5%	74.1%	77.4%	79.6%
South	67.0%	43.4%	32.5%	25.9%	22.6%	20.4%



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EXAMPLE 6

Trigger Value: 4.5 million pounds

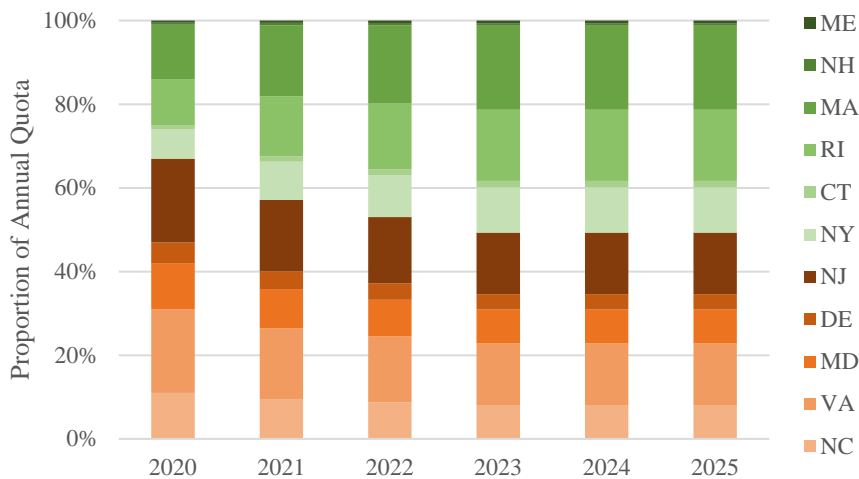
Base allocations: Dynamic

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to base allocations.

Regional configuration: ME-NY and NJ-NC.

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	17.0%	18.6%	20.1%	20.1%	20.1%
RI	11.0%	14.3%	15.7%	17.0%	17.0%	17.0%
CT	1.0%	1.3%	1.4%	1.5%	1.5%	1.5%
NY	7.0%	9.1%	10.0%	10.8%	10.8%	10.8%
NJ	20.0%	17.1%	15.8%	14.7%	14.7%	14.7%
DE	5.0%	4.3%	4.0%	3.7%	3.7%	3.7%
MD	11.0%	9.4%	8.7%	8.1%	8.1%	8.1%
VA	20.0%	17.1%	15.8%	14.7%	14.7%	14.7%
NC	11.0%	9.4%	8.7%	8.1%	8.1%	8.1%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	42.9%	47.0%	50.7%	50.7%	50.7%
South	67.0%	57.1%	53.0%	49.3%	49.3%	49.3%



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EXAMPLE 7-A (Increase to Connecticut and New York Quotas First)

Trigger Value: 3 million pounds

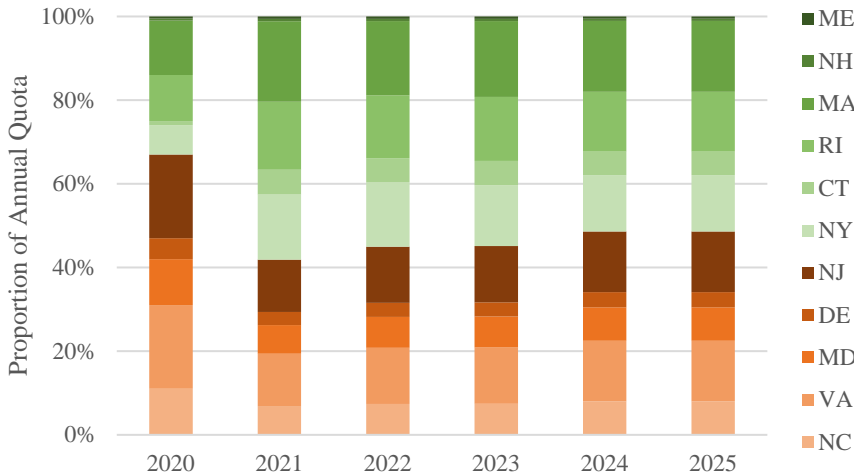
Base allocations: Static

Distribution of surplus quota: Surplus quota first allocated to increase Connecticut to 5%, then to increase New York to 9%. Further surplus is allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to historic allocations.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.6%	0.5%	0.6%	0.5%	0.5%
NH	0.5%	0.6%	0.5%	0.6%	0.5%	0.5%
MA	13.0%	19.2%	17.8%	18.1%	16.9%	16.9%
RI	11.0%	16.3%	15.0%	15.3%	14.3%	14.3%
CT	1.0%	5.9%	5.8%	5.8%	5.6%	5.6%
NY	7.0%	15.6%	15.4%	14.5%	13.4%	13.4%
NJ	20.0%	12.5%	13.4%	13.5%	14.5%	14.5%
DE	5.0%	3.1%	3.4%	3.4%	3.6%	3.6%
MD	11.0%	6.9%	7.4%	7.4%	8.0%	8.0%
VA	20.0%	12.5%	13.4%	13.5%	14.5%	14.5%
NC	11.0%	6.9%	7.4%	7.4%	8.0%	8.0%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	58.1%	55.0%	54.9%	51.4%	51.4%
South	67.0%	41.9%	45.0%	45.1%	48.6%	48.6%



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EXAMPLE 7-B (7-A approach with one year's quota under the trigger)

Trigger Value: 3 million pounds

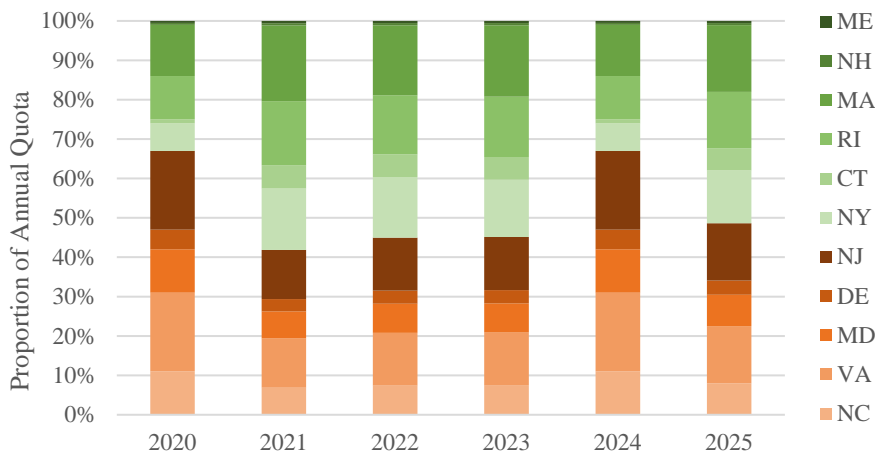
Base allocations: Static

Distribution of surplus quota: Surplus quota first allocated to increase Connecticut to 5%, then to increase New York to 9%. Further surplus is allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated in proportion to historic allocations.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	2,800,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.6%	0.5%	0.6%	0.5%	0.5%
NH	0.5%	0.6%	0.5%	0.6%	0.5%	0.5%
MA	13.0%	19.2%	17.8%	18.1%	13.0%	16.9%
RI	11.0%	16.3%	15.0%	15.3%	11.0%	14.3%
CT	1.0%	5.9%	5.8%	5.8%	1.0%	5.6%
NY	7.0%	15.6%	15.4%	14.5%	7.0%	13.4%
NJ	20.0%	12.5%	13.4%	13.5%	20.0%	14.5%
DE	5.0%	3.1%	3.4%	3.4%	5.0%	3.6%
MD	11.0%	6.9%	7.4%	7.4%	11.0%	8.0%
VA	20.0%	12.5%	13.4%	13.5%	20.0%	14.5%
NC	11.0%	6.9%	7.4%	7.4%	11.0%	8.0%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	58.1%	55.0%	54.9%	33.0%	51.4%
South	67.0%	41.9%	45.0%	45.1%	67.0%	48.6%



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EXAMPLE 8

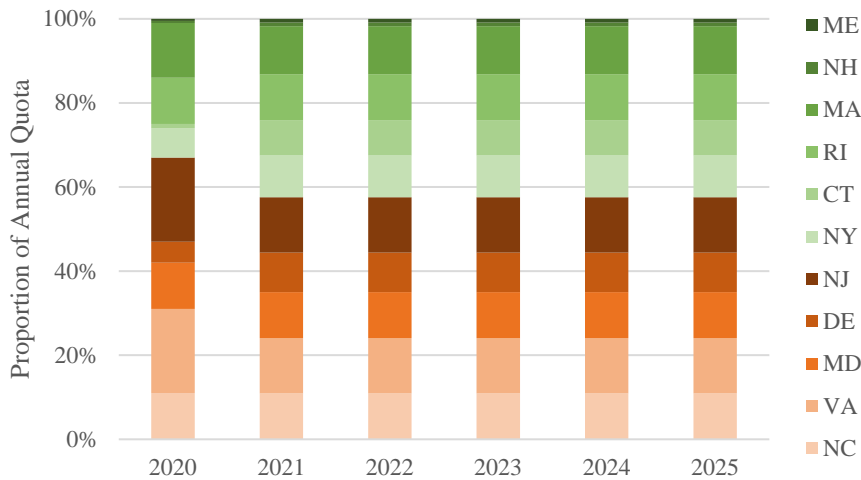
Base percentage: 25%

Distribution of surplus quota: Surplus quota allocated equally to each state from Massachusetts to North Carolina.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.9%	0.9%	0.9%	0.9%	0.9%
NH	0.5%	0.9%	0.9%	0.9%	0.9%	0.9%
MA	13.0%	11.4%	11.4%	11.4%	11.4%	11.4%
RI	11.0%	10.9%	10.9%	10.9%	10.9%	10.9%
CT	1.0%	8.4%	8.4%	8.4%	8.4%	8.4%
NY	7.0%	9.9%	9.9%	9.9%	9.9%	9.9%
NJ	20.0%	13.2%	13.2%	13.2%	13.2%	13.2%
DE	5.0%	9.4%	9.4%	9.4%	9.4%	9.4%
MD	11.0%	10.9%	10.9%	10.9%	10.9%	10.9%
VA	20.0%	13.2%	13.2%	13.2%	13.2%	13.2%
NC	11.0%	10.9%	10.9%	10.9%	10.9%	10.9%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	42.4%	42.4%	42.4%	42.4%	42.4%
South	67.0%	57.6%	57.6%	57.6%	57.6%	57.6%



Draft Addendum for Public Comment

EXAMPLE 9

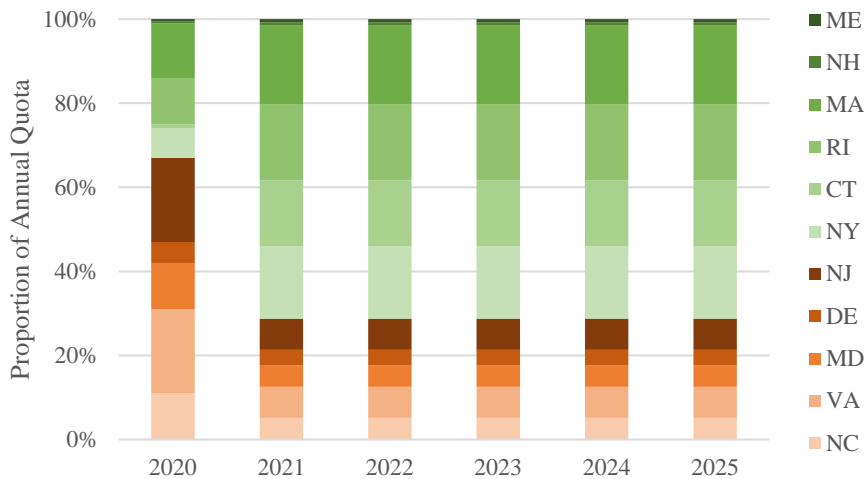
Base percentage: 25%

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated equally to each state.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.8%	0.8%	0.8%	0.8%	0.8%
NH	0.5%	0.8%	0.8%	0.8%	0.8%	0.8%
MA	13.0%	18.7%	18.7%	18.7%	18.7%	18.7%
RI	11.0%	18.2%	18.2%	18.2%	18.2%	18.2%
CT	1.0%	15.7%	15.7%	15.7%	15.7%	15.7%
NY	7.0%	17.2%	17.2%	17.2%	17.2%	17.2%
NJ	20.0%	7.4%	7.4%	7.4%	7.4%	7.4%
DE	5.0%	3.7%	3.7%	3.7%	3.7%	3.7%
MD	11.0%	5.2%	5.2%	5.2%	5.2%	5.2%
VA	20.0%	7.4%	7.4%	7.4%	7.4%	7.4%
NC	11.0%	5.2%	5.2%	5.2%	5.2%	5.2%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	71.3%	71.3%	71.3%	71.3%	71.3%
South	67.0%	28.8%	28.8%	28.8%	28.8%	28.8%



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EXAMPLE 10

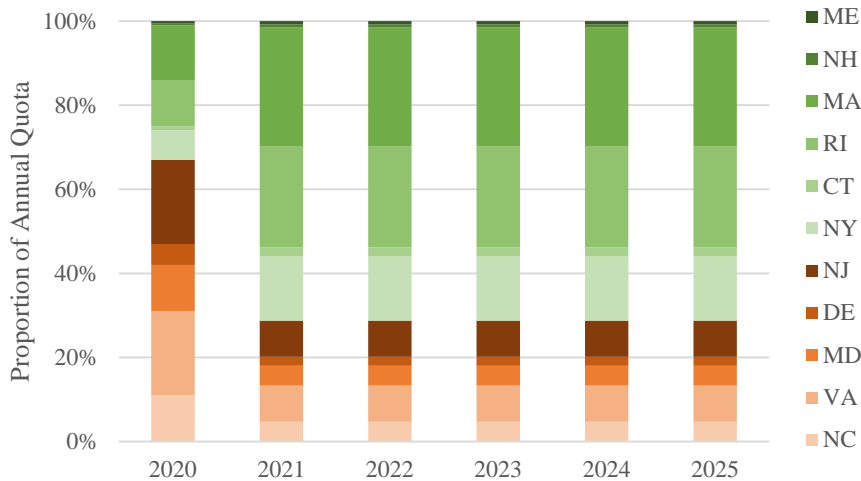
Base percentage: 25%

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated according to initial proportions.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.8%	0.8%	0.8%	0.8%	0.8%
NH	0.5%	0.8%	0.8%	0.8%	0.8%	0.8%
MA	13.0%	28.3%	28.3%	28.3%	28.3%	28.3%
RI	11.0%	24.0%	24.0%	24.0%	24.0%	24.0%
CT	1.0%	2.2%	2.2%	2.2%	2.2%	2.2%
NY	7.0%	15.3%	15.3%	15.3%	15.3%	15.3%
NJ	20.0%	8.6%	8.6%	8.6%	8.6%	8.6%
DE	5.0%	2.1%	2.1%	2.1%	2.1%	2.1%
MD	11.0%	4.7%	4.7%	4.7%	4.7%	4.7%
VA	20.0%	8.6%	8.6%	8.6%	8.6%	8.6%
NC	11.0%	4.7%	4.7%	4.7%	4.7%	4.7%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	71.3%	71.3%	71.3%	71.3%	71.3%
South	67.0%	28.8%	28.8%	28.8%	28.8%	28.8%



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EXAMPLE 11

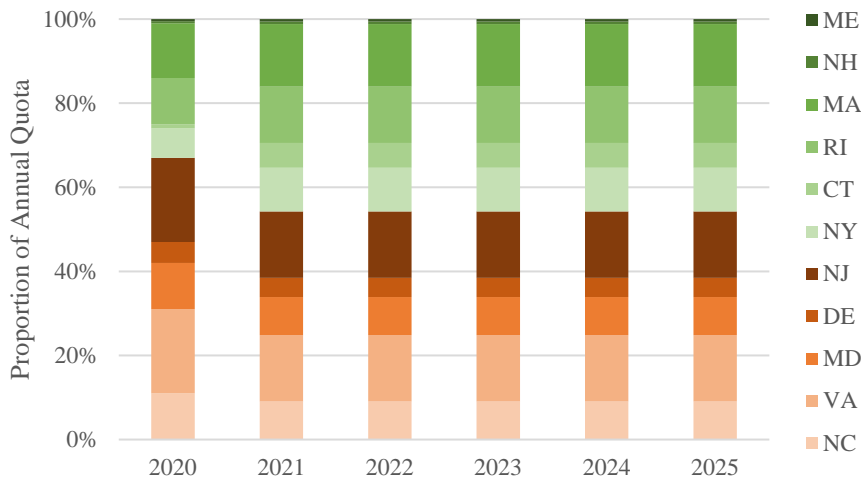
Base percentage: 75%

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated equally to each state.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	14.9%	14.9%	14.9%	14.9%	14.9%
RI	11.0%	13.4%	13.4%	13.4%	13.4%	13.4%
CT	1.0%	5.9%	5.9%	5.9%	5.9%	5.9%
NY	7.0%	10.4%	10.4%	10.4%	10.4%	10.4%
NJ	20.0%	15.8%	15.8%	15.8%	15.8%	15.8%
DE	5.0%	4.6%	4.6%	4.6%	4.6%	4.6%
MD	11.0%	9.1%	9.1%	9.1%	9.1%	9.1%
VA	20.0%	15.8%	15.8%	15.8%	15.8%	15.8%
NC	11.0%	9.1%	9.1%	9.1%	9.1%	9.1%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	45.8%	45.8%	45.8%	45.8%	45.8%
South	67.0%	54.3%	54.3%	54.3%	54.3%	54.3%



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EXAMPLE 12

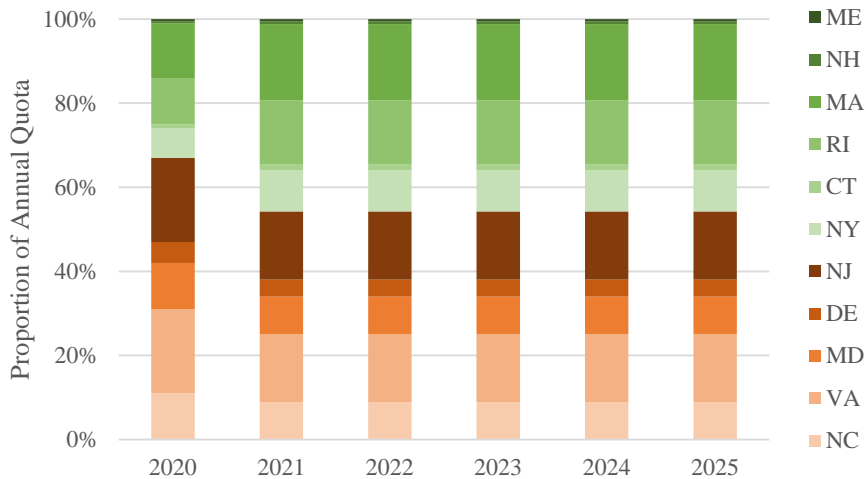
Base percentage: 75%

Distribution of surplus quota: Surplus quota allocated regionally according to stock distribution (84% in the North and 16% in the South according to the 2019 stock assessment) and, within a region, allocated according to initial proportions.

Regional configuration: ME-NY and NJ-NC

Year	2020	2021	2022	2023	2024	2025
Coastwide Quota	5,580,000	5,580,000	5,000,000	5,000,000	4,500,000	4,500,000

State	Annual % of Quota					
	2020	2021	2022	2023	2024	2025
ME	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
NH	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
MA	13.0%	18.1%	18.1%	18.1%	18.1%	18.1%
RI	11.0%	15.3%	15.3%	15.3%	15.3%	15.3%
CT	1.0%	1.4%	1.4%	1.4%	1.4%	1.4%
NY	7.0%	9.8%	9.8%	9.8%	9.8%	9.8%
NJ	20.0%	16.2%	16.2%	16.2%	16.2%	16.2%
DE	5.0%	4.0%	4.0%	4.0%	4.0%	4.0%
MD	11.0%	8.9%	8.9%	8.9%	8.9%	8.9%
VA	20.0%	16.2%	16.2%	16.2%	16.2%	16.2%
NC	11.0%	8.9%	8.9%	8.9%	8.9%	8.9%
Total	100%	100%	100%	100%	100%	100%
North	33.0%	45.8%	45.8%	45.8%	45.8%	45.8%
South	67.0%	54.3%	54.3%	54.3%	54.3%	54.3%





Mid-Atlantic Fishery Management Council

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Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman

Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: January 15, 2021
To: Chris Moore, Executive Director
From: Julia Beaty, staff
Subject: Council Staff Recommendation for Black Sea Bass Commercial State Allocation Percentages

During their joint meeting in December 2020, the Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Management Board (Board) considered the Black Sea Bass Commercial State Allocation Amendment/Draft Addendum XXXIII for final action. They took final action on alternatives related to the inclusion of the commercial state allocations in both the Council and Commission Fishery Management Plans (FMPs), paybacks of state-level quota overages, and federal in-season closures.¹

During their joint meeting on February 1, 2021, the Council and Board plan to take final action on the alternatives in the amendment/addendum regarding the commercial state allocation percentages for black sea bass.

Council staff recommend the following combination of alternatives for modification of the commercial state allocation percentages. These alternatives are described in more detail below.

- **Alternative B:** Increase Connecticut's allocation from 1% to 5% (see details below).
- **Alternative F:** Percentage of coastwide quota distributed based on initial allocations
 - **Sub-Alternative F1-B:** Allocate 75% of the coastwide quota based on the initial allocations (after first accounting for Connecticut's increase to 5%).
 - **Sub-Alternative F2-B:** Allocate the remaining 25% based on the most recent regional biomass distribution information from the stock assessment.
 - **Sub-Alternative F3-B:** Further divide the regional allocation among states within a region in proportion to the initial allocations, except that Maine and New Hampshire would each receive 1% of the northern region quota. The initial allocations would account for the increase in Connecticut's allocation to 5%.
- **Sub-Alternative G2:** Define the regions as: 1) Maine through New York, 2) New Jersey, and 3) Delaware through North Carolina.

If this combination of alternatives is approved, the following steps would be followed to determine the state allocations in a given year. Note that the state allocation percentages would

¹ A summary of the December 2020 joint meeting is available here: <https://www.mafmc.org/briefing/december-2020>.

vary each time updated stock assessment information becomes available since 25% of the quota would always be distributed based on the most recent stock assessment information. Modifications in response to updated stock assessment information would be made through the specifications process.

Step 1: Increase Connecticut's allocation from 1% to 5% (i.e., alternative B). This would be achieved using the following approach:

- Leave New York and Delaware's allocations unchanged (for this step).
- Move 0.25% from Maine and 0.25% from New Hampshire to Connecticut.
- Move some allocation from Massachusetts (0.53%), Rhode Island (0.45%), New Jersey (0.81%), Maryland (0.45%), Virginia (0.81%), and North Carolina (0.45%) to Connecticut. The amount moved from each state is proportional to that state's current allocation percentages.

This results in the "initial" allocations shown in Table 1.

Step 2: Allocate 75% of the annual coastwide quota according to the initial allocations defined through Step 1 (i.e., Sub-alternative F1-B).

Step 3: Divide the remaining 25% of the coastwide quota into a northern component and a southern component based on the most recent regional biomass distribution information from the stock assessment (sub-alternative F2-B). This division would vary each time updated stock assessment information is available. For example, the 2019 Operational Stock Assessment estimated that 84% of the spawning stock biomass in 2018 was present in the northern region and 16% in the southern region, after accounting for a retrospective pattern adjustment. This would result in 21% of the total quota (i.e., 84% of 25%) being allocated to the northern states and 4% (i.e., 16% of 25%) to the southern states to account for recent biomass distribution.

To establish New Jersey as its own region, it would be treated as if half its initial allocation is associated with the northern region and half with the southern region (alternative G2).

Step 4: Further divide the regional allocations defined in step 3 among states within a region in proportion to the initial allocations (Step 1), except that Maine and New Hampshire would each receive 1% of the northern region quota (i.e., sub-alternative F3-B). As previously stated, the initial allocations would account for the increase in Connecticut's allocation to 5%. New Jersey's final allocation would be the sum of the component of their allocation that is associated with the northern region and the component associated with the southern region.

Final resulting allocations: The 25% of the total quota that is allocated based on regional biomass distribution would change each time updated stock assessment information is available; therefore, the final resulting state allocations would also change on a regular basis. These changes would be made through the specifications process. Table 1 shows an example of the final resulting state allocations under the most recent biomass distribution (i.e., 84% north and 16% south, after applying a retrospective pattern adjustment, according to the 2019 Operational Stock Assessment).

Rationale for Council staff recommendation for state quota allocation percentages: The staff recommendation seeks to better align the allocations with recent stock distribution while accounting for the historical dependence of the states on the commercial black sea bass fishery. For example, under the most recent biomass distribution, no state would lose more than 4.21% and no state except Connecticut would gain more than 2.10% of the total quota. This approach also seeks to address the unique position of Connecticut, which, like many states, has seen a

notable increase in availability of black sea bass, but is especially constrained by their current 1% allocation. It also addresses the unique position of New Jersey as a state that spans the boundary between the two regions used in the stock assessment. This approach allows the allocations to change in response to future distribution changes, helping to ensure that they continue to allow fair access to the fishery.

Table 1: Resulting state allocation percentages under Council staff recommendation and 2018 biomass distribution information.

State	Current allocations	"Initial allocations" (CT to 5% first)	Revised allocations under 2018 biomass distribution	Difference between current and revised allocations
ME	0.50%	0.25%	0.40%	-0.10%
NH	0.50%	0.25%	0.40%	-0.10%
MA	13.00%	12.47%	15.10%	2.10%
RI	11.00%	10.55%	12.78%	1.78%
CT	1.00%	5.00%	6.06%	5.06%
NY	7.00%	7.00%	8.48%	1.48%
NJ	20.00%	19.19%	19.52%	-0.48%
DE	5.00%	5.00%	4.11%	-0.89%
MD	11.00%	10.55%	8.68%	-2.32%
VA	20.00%	19.19%	15.79%	-4.21%
NC	11.00%	10.55%	8.68%	-2.32%
Total	100.00%	100.00%	100.00%	0.00%
Total percentage moved from NJ-NC to ME-NY under 2018 biomass distribution.				10.21%