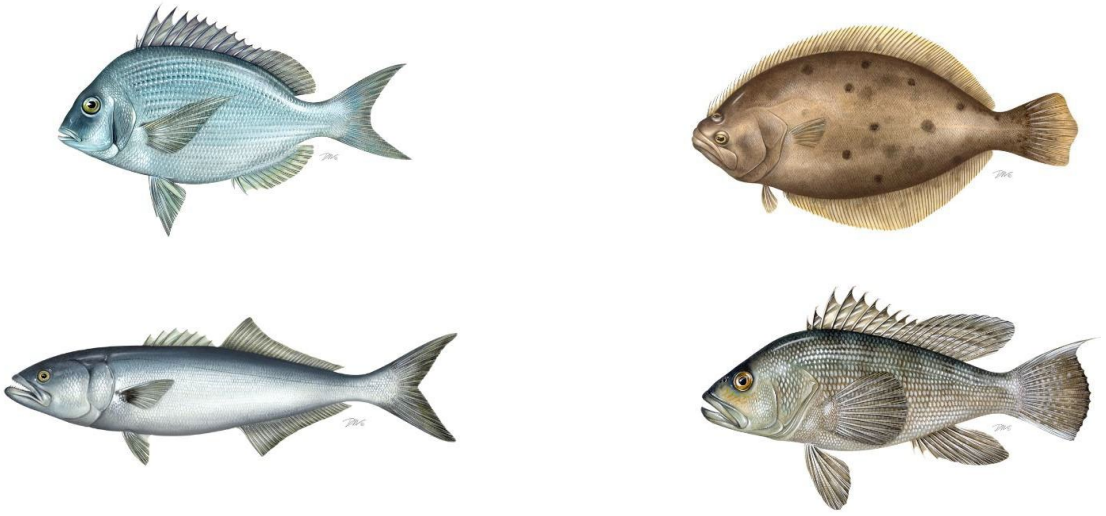
Draft Document for Public Comment

Atlantic States Marine Fisheries Commission

ADDENDUM XXXVI TO THE SUMMER FLOUNDER, SCUP, AND BLACK SEA BASS FISHERY MANAGEMENT PLAN AND ADDENDUM III TO THE BLUEFISH FISHERY MANAGEMENT PLAN

Recreational Measures Setting Process for Summer Flounder, Scup, Black Sea Bass, and Bluefish



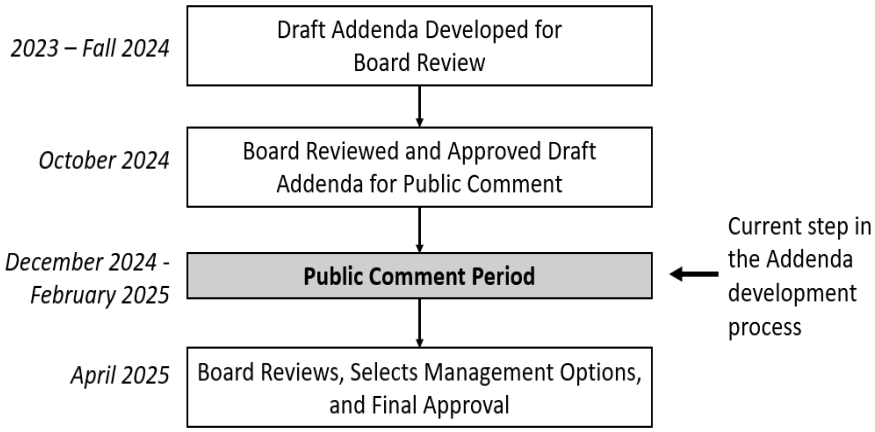
November 2024

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

Draft Document for Public Comment

Public Comment Process and Proposed Timeline

In June 2022, the Atlantic States Marine Fisheries Commission's (Commission) Interstate Fisheries Management Policy Board (Policy Board) and the Mid-Atlantic Fishery Management Council (Council) initiated these draft addenda (for the Commission) and a framework action (for the Council) to address management of the summer flounder, scup, black sea bass, and bluefish recreational fisheries. This document, Draft Addendum XXXVI to the Summer Flounder, Scup and Black Sea Bass Fishery Management Plan (FMP) and Draft Addendum III to the Bluefish FMP, herein referred to as the Draft Addenda, and the Council's framework consider modifications to the process for setting recreational bag, size, and season limits (i.e., "recreational measures") for all four species. The Draft Addenda and the Council's framework action consider an identical set of options and the Policy Board and Council will select the same management options for implementation. This document presents background on recreational management for these species and a range of options to set recreational measures for public consideration and comment. The addenda process and expected timeline are summarized in the flowchart to the right.



Public comment may be submitted via public hearings or through written comment and will be accepted until **February 15 at 11:59 p.m.** If you have any questions or would like to submit a 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.**

Tips for Providing Public Comment

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

- Which proposed options do you support, and which options do you oppose? Why?
- Is there any additional information you think should be considered?

Submit Comments to:

Mail: Chelsea Tuohy, FMP Coordinator
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1050 North Highland Street, Suite 200 A-N
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Email: comments@asmfc.org
(Subject: Recreational Measures Setting Process)

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1.0 Introduction

The summer flounder, scup, black sea bass, and bluefish fisheries are managed cooperatively by the Atlantic States Marine Fisheries Commission (ASMFC or Commission) in state waters (0-3 miles) and by the Mid-Atlantic Fishery Management Council (MAFMC or Council) and NOAA Fisheries in federal waters (3-200 miles). Summer flounder, scup, and black sea bass are managed under one fishery management plan (FMP) and bluefish is managed under a separate FMP. The management unit for summer flounder is US waters from the southern border of North Carolina northward to the US-Canadian border. The management unit for scup and black sea bass is US waters from Cape Hatteras, North Carolina northward to the Canadian border. Bluefish are managed in US waters along the entire eastern seaboard, from Maine through Florida.

The Council and Commission jointly agree to recreational annual catch limits (ACLs), annual catch targets (ACTs), and recreational harvest limits (RHLs) for all four species, which apply throughout the management units. They also jointly agree to the overall approach to setting recreational bag, size, and season limits (i.e., recreational measures).

The current process for setting recreational measures for these species, referred to as the Percent Change Approach, was implemented through the Harvest Control Rule Framework/Addenda in 2023. The goal of the Harvest Control Rule Framework/Addenda was to establish a process such that recreational measures aim to prevent overfishing, are reflective of stock status, appropriately account for uncertainty in the recreational data, take into consideration angler preferences, and provide an appropriate level of stability and predictability in changes from year to year.

The Council and the Commission agreed that the Percent Change Approach should sunset by the end of 2025 with the goal of implementing an improved long-term process for setting recreational measures, starting with the 2026 measures.

The goal of the Recreational Measures Setting Process Addenda is to consider the process for setting recreational measures for summer flounder, scup, black sea bass, and bluefish for 2026 and beyond.

2.0 Overview

2.1 Statement of Problem

As described in more detail in Section 2.2, the Commission and Council have faced a number of challenges in setting recreational management measures for summer flounder, scup, black sea bass, and bluefish. These challenges included concerns related to uncertainty and variability in the recreational fishery catch estimates and the need to frequently change measures based on those data, especially in a direction often perceived as contrary to stock status. The interim approach to address these challenges (i.e., the Percent Change Approach) will expire at the end of 2025.

2.2 Background

As stated above, the Commission's species management boards and the Council jointly set recreational ACLs, recreational ACTs, and RHLs for all four species (Figure 1). The recreational ACLs account for landings and dead discards and are set based on the recreational allocation percentages defined in the FMPs. The ACTs are set less than or equal to the ACLs to account for management uncertainty. The RHL for each species is set equal to the ACT minus expected recreational dead discards. None of the options in this document would change the process for setting the ACLs, ACTs, and RHLs.

The ACLs, ACTs, and RHLs are revised when new stock assessment information becomes available. For the foreseeable future, updated stock assessments are expected to be available every other year for these four species.

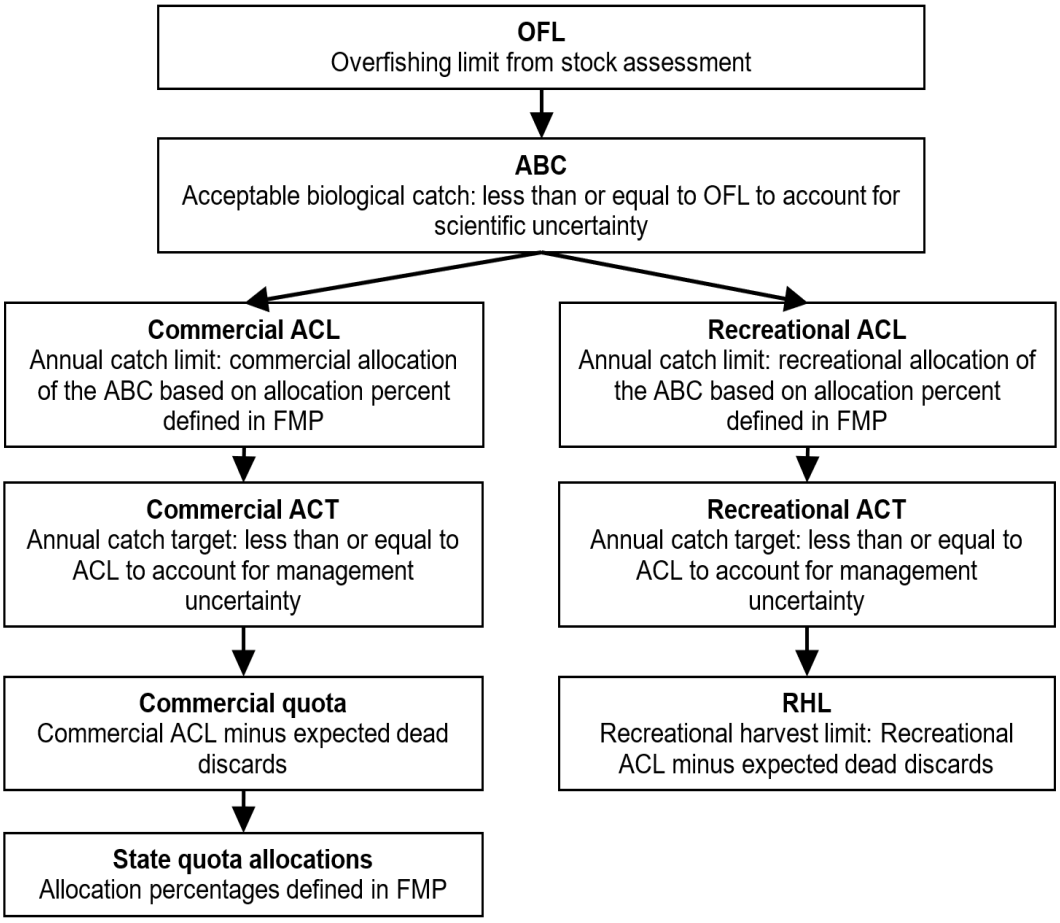


Figure 1. Example flowchart for the process for defining recreational and commercial catch and landings limits for summer flounder, scup, black sea bass, and bluefish. The specific requirements for each species are defined in the FMPs.

The Commission's species management boards and Council determine whether measures should remain status quo, or if there should be an overall percentage liberalization or reduction in harvest. These bodies jointly set federal waters measures and state waters measures are subsequently approved by the Boards.

Prior to the Harvest Control Rule Addenda/Framework, recreational measures (i.e., bag, size, and season limits) were set with the goal of allowing harvest to meet, but not exceed the RHL. In preventing RHL overages, recreational measures also aimed to prevent ACL overages and overfishing.

Of the four species' fisheries, those that tend to meet or exceed their RHL required frequent changes to the recreational bag, size, and season limits aimed at preventing future RHL overages. This has not only been frustrating for stakeholders, but also can lead to issues with the enforceability of the management measures and can increase the likelihood of unintentional violations (ASMFC 2024a). In some cases, the required changes in measures appear to have responded to variability in recreational catch and uncertainty in the Marine Recreational Information Program (MRIP) estimates rather than a clear conservation need. This challenge has been referred to as "chasing the RHL." In addition, many recreational stakeholders expressed frustration that measures for these species did not appear reflective of stock status. For example, black sea bass measures have been more restrictive in recent years when the stock is more than double the target level compared to when the stock was under a rebuilding plan.

The Percent Change Approach, which was implemented through the Harvest Control Rule Framework/Addenda in 2023, aimed to address these issues by setting measures for two years at a time, requiring consideration of uncertainty in the MRIP harvest estimates through use of confidence intervals, and adding additional considerations for stock status. As described in more detail in Section 3.2, the Percent Change Approach uses the RHL and other information to define a harvest target for setting recreational measures. This harvest target can be higher than, lower than, or equal to the RHL. The harvest target is based on two factors: 1) Comparison of a confidence interval around an estimate of expected harvest under status quo measures to the average RHL for the upcoming two years and 2) Biomass compared to the target level, as defined by the most recent stock assessment.

Through the Recreational Measures Setting Process Addenda/Framework, the Commission and Council wish to further evaluate the Percent Change Approach and other possible approaches to determine the appropriate long-term process for setting recreational measures for all four species.

The FMPs for the four species do not specify what methods should be used to determine which recreational management measures are expected to meet the relevant target (i.e., the RHL prior to 2023 or the level of harvest required by the Percent Change Approach since 2023). The methods can differ based on recommendations from the Council's Monitoring Committees and the Commission's Technical Committees. Since 2023, a tool referred to as the Recreation Demand Model has been used to set recreational measures for summer flounder, scup, and black sea bass (Carr-Harris et al. 2024). The model produces estimates of recreational harvest and discards given a suite of proposed regulatory measures for each state. The Recreation Demand Model incorporates data on recent recreational harvest and discards from MRIP, as well as information on angler behavior from a survey administered to anglers who recently

fished for summer flounder, scup, or black sea bass. The Recreation Demand Model also incorporates information from the stock assessments on availability of the three species. The Recreation Demand Model is not available for bluefish. Therefore, bluefish measures are set based on an analysis of MRIP data only, as was also done for summer flounder, scup, and black sea bass prior to 2023. Improved analysis or modeling approaches for setting bluefish measures can be considered in the future without requiring a change to the FMP.

The Draft Addenda include special considerations for stocks in a rebuilding plan. The potential management programs outlined in this document are not meant to replace any species rebuilding measures. The bluefish stock was declared overfished in 2019, triggering the development of a rebuilding plan and a need for more restrictive management measures than had previously been in place. Any measures implemented for bluefish must comply with the rebuilding plan.

2.3 Status of the Stocks

2.3.1 Summer Flounder

The most recent summer flounder management track stock assessment was completed in June 2023, using data through 2022 (NEFSC 2023a). The assessment approach is a statistical catch-at-age model incorporating a broad array of fishery and survey data. Results from the 2023 assessment indicated that the summer flounder stock was not overfished, but overfishing was occurring in 2022 with fishing mortality estimated at 103% of the overfishing threshold proxy (Figure 2). Spawning stock biomass (SSB) was estimated to be 83% of the biomass target and stock recruitment has been below average since 2011.

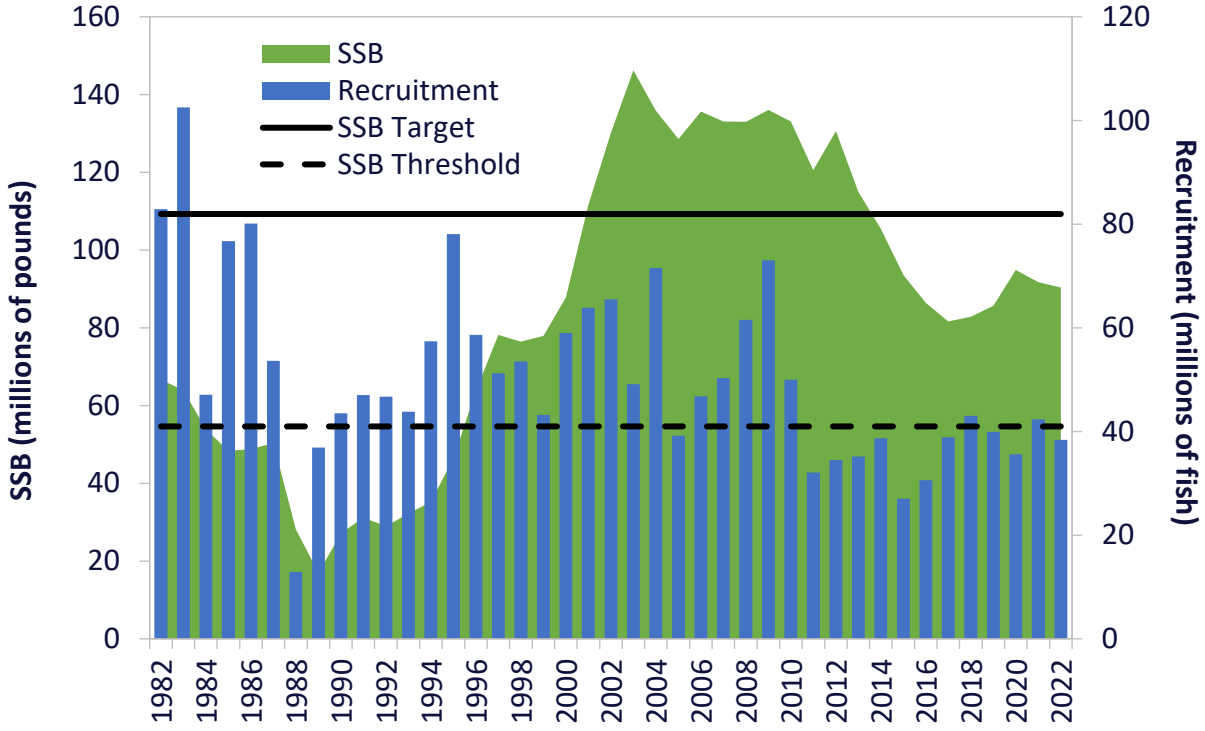


Figure 2. Summer flounder spawning stock biomass and recruitment. Source: 2023 Management Track Assessment Report, Northeast Fisheries Science Center.

2.3.2 Scup

The most recent scup management track stock assessment was completed in June 2023, using data through 2022 (NEFSC 2023b). The assessment approach is a statistical catch-at-age model incorporating a broad array of fishery and survey data. Results from the 2023 assessment indicated that the scup stock was not overfished, with biomass 246% of the biomass target, and overfishing was not occurring in 2022 (Figure 3). Fishing mortality was 52% of the overfishing threshold proxy.

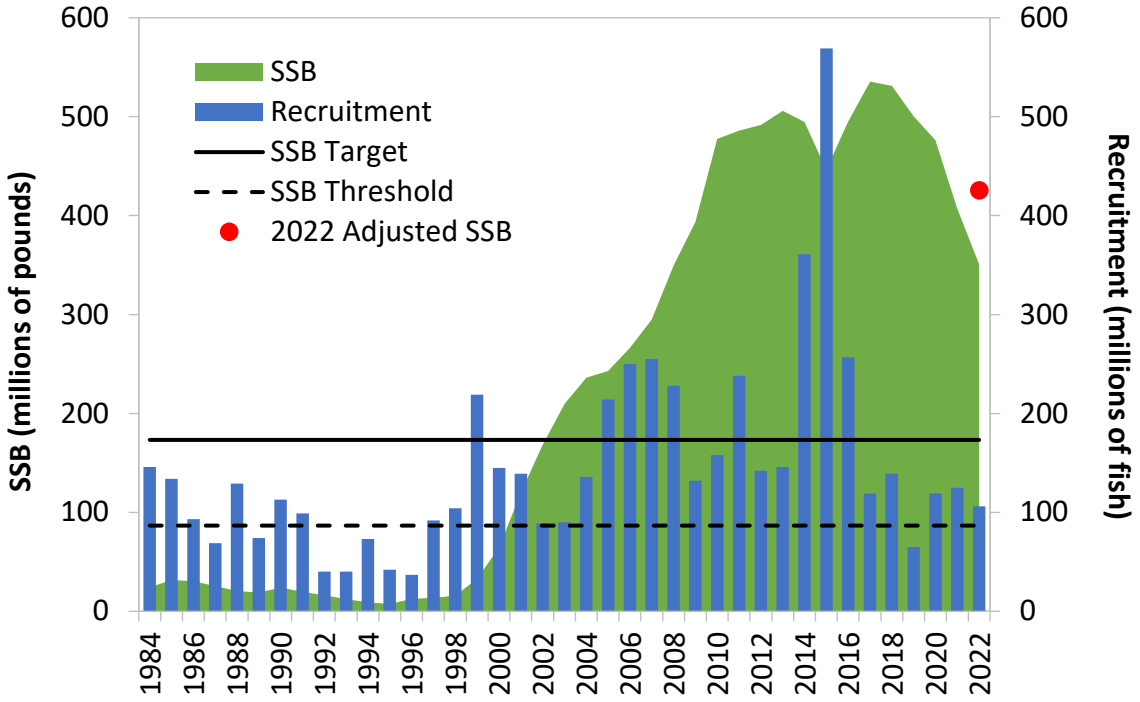


Figure 3. Scup spawning stock biomass and recruitment. 2022 spawning stock biomass was adjusted for a retrospective pattern with both the unadjusted and adjusted values shown above. The adjusted value was used in management. Source: 2023 Management Track Assessment Report, Northeast Fisheries Science Center.

2.3.3 Black Sea Bass

The most recent black sea bass stock assessment update was completed in June 2024, using data through 2023 (NEFSC 2024). The assessment used a combined-sex age-structured approach that modeled the stock as two sub-units, divided at Hudson Canyon, with mixing between the northern and southern sub-units. Results from the 2024 assessment indicated that the black sea bass stock was not overfished and overfishing was not occurring during 2023. SSB in 2023 was estimated to be 219% of the biomass target (Figure 4), and fishing mortality was 77% of the overfishing threshold.

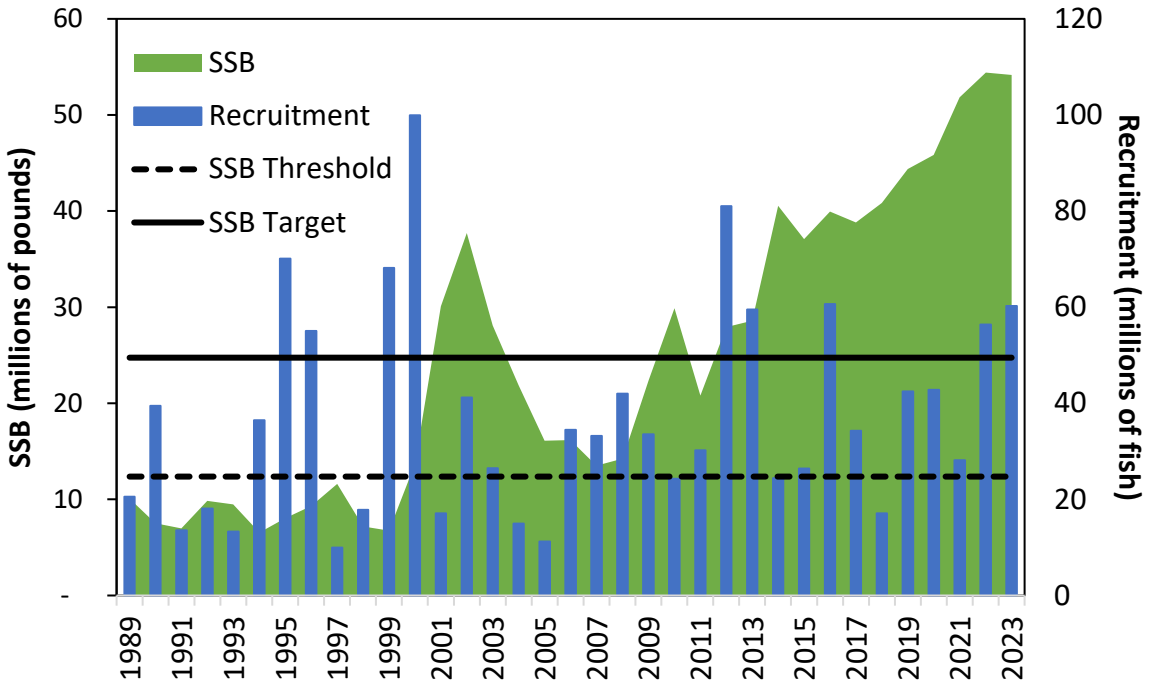


Figure 4. Black sea bass spawning stock biomass and recruitment. Source: 2024 Management Track Assessment Report, Northeast Fisheries Science Center.

2.3.4 Bluefish

The most recent bluefish management track stock assessment was completed in June 2023, using data through 2022 (NEFSC 2023c). The assessment approach is an analytical state-space

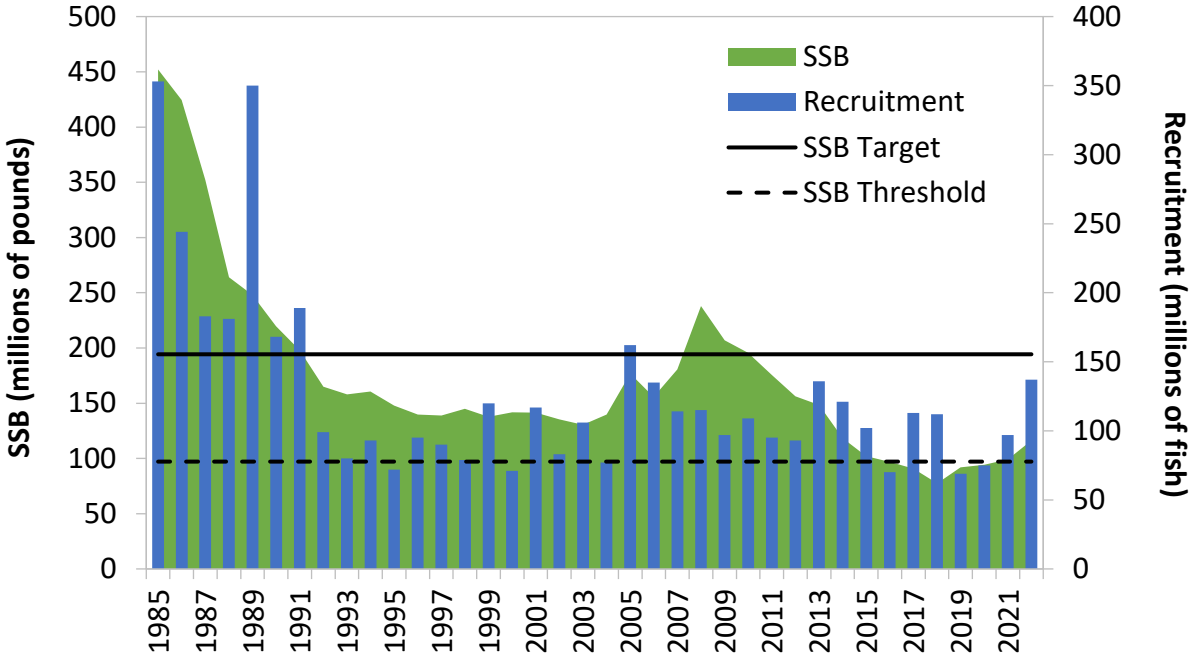


Figure 5. Bluefish spawning stock biomass and recruitment. Source: 2023 Management Track Assessment Report, Northeast Fisheries Science Center.

model incorporating a broad array of fishery and survey data. Results from the 2023 assessment indicated that the bluefish stock was not overfished and overfishing was not occurring in 2022 (Figure 5). While the bluefish stock is not considered overfished based on the 2023 assessment, bluefish will remain in a rebuilding plan until SSB reaches the target level. In 2023, SSB was estimated to be 60% of the biomass target and fishing mortality was 64% of the overfishing threshold.

2.4 Status of the Fisheries

Note: Since the addenda consider management of the recreational fisheries for summer flounder, scup, black sea bass, and bluefish, the following information focuses on those recreational fisheries. For information on the commercial fisheries, see the Reviews of the FMPs for Summer Flounder, Scup, Black Sea Bass, and Bluefish for the 2023 Fishing Year (ASMFC 2024b-e). MRIP data reported below were queried in July of 2024.

2.4.1 Summer Flounder

From 2014 through 2023, MRIP estimates indicate that recreational summer flounder harvest was highest in 2014, with 5.36 million fish landed, totaling 16.23 million pounds. Recreational harvest reached a low in 2021 with 2.32 million fish landed (6.82 million pounds). Over the same time period, recreational catch (harvest plus live and dead discards) was highest in 2014 with 44.57 million fish caught, and was lowest in 2018 with 22.67 million fish caught.

In 2023, 934 vessels held summer flounder federal party/charter permits. Many of these vessels also hold party/charter permits for scup and black sea bass. On average, an estimated 77% of the recreational landings (in numbers of fish) occurred in state waters over the past ten years. Most summer flounder are typically landed in New York and New Jersey. About 80% of recreational summer flounder harvest between 2021 and 2023 was from anglers who fished on private or rental boats. About 5% was from party or charter boats, and about 15% was from anglers fishing from shore.

2.4.2 Scup

From 2014 through 2023, MRIP estimates indicate that recreational catch of scup (in number of fish) was highest in 2017 at 41.20 million scup and harvest was highest in 2022 with an estimated 17.71 million scup landed by recreational fishermen from Maine through North Carolina. Recreational catch was lowest in 2014 when an estimated 20.88 million scup were caught, and harvest was lowest in 2016 with 9.14 million fish landed.

In 2023, 748 vessels held scup federal party/charter permits. Many of these vessels also held party/charter permits for summer flounder and black sea bass. Between 2021 and 2023, on average 96% of recreational scup catch (in numbers of fish) occurred in state waters and about 4% occurred in federal waters. New York, Connecticut, Rhode Island, Massachusetts, and New Jersey accounted for over 99% of recreational scup harvest in 2023. About 53% of recreational scup landings (in numbers of fish) in 2023 were from anglers who fished on private or rental boats and about 36% were from anglers fishing from shore. Additionally, about 12% were from anglers fishing on party or charter boats.

2.4.3 Black Sea Bass

From 2014 through 2023, MRIP estimates indicate that recreational harvest of black sea bass has remained relatively stable, with a high in 2021 at 6.43 million fish, or 11.96 million pounds. During this same period, recreational harvest was lowest in 2014, at 3.97 million fish, or 7.24 million pounds. Total recreational black sea bass catch (i.e., harvest plus live and dead releases) from Maine through Cape Hatteras, North Carolina has exceeded 40 million fish each year for the most recent three years, peaking in 2021 at 42.67 million fish. Due to fishery regulations and other factors, most of these fish are released.

In 2023, 36% of black sea bass harvested by recreational fishermen from Maine through Cape Hatteras, North Carolina (in numbers of fish) were caught in state waters and 64% in federal waters. Most of the recreational harvest in numbers of fish in 2023 was landed in New Jersey (36%), followed by New York (18%). In 2023, 942 vessels held a federal party/charter black sea bass permit. About 90% of the recreational black sea bass harvest in numbers of fish in 2023 came from anglers fishing on private or rental boats, about 9% from anglers aboard party or charter boats, and 1% from anglers fishing from shore.

2.4.4 Bluefish

From 2014 through 2023, recreational catch averaged 36.45 million fish annually. Over those 10 years, catch has declined by 60%. In 2023, recreational catch was estimated at 22.01 million fish. In 2023, recreational anglers harvested an estimated 4.55 million fish weighing 11.03 million pounds. Harvest since 2018 has been exceptionally low compared to the performance of the fishery prior to 2018. The 2023 average weight of landed fish was 2.4 pounds, which is the heaviest since 2008. This higher average weight is likely due to the majority of landings (by weight) occurring in northern states in 2023, which typically harvest a larger fish (relative to states south of Virginia). In 2023, the states with the highest recreational harvest (pounds) were New York (28%), North Carolina (14%), and Massachusetts (13%). Fish from southern states (North Carolina through Florida) made up 27% of the landings and are typically smaller on average than fish caught in northern states (Maine through Virginia). In 2023, recreational dead releases (9.4% of released alive fish) were estimated at 1.64 million fish. The qualitative trend in dead releases has been declining since about 2010.

3.0 Proposed Management Options

The Commission and Council are considering changes to the process of setting recreational management measures for summer flounder, scup, black sea bass, and bluefish. The Council is bound by the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including requirements for ACLs, accountability measures (AMs), and prevention of overfishing. NOAA Fisheries, which has final approval authority for Council management documents, will not approve measures that are inconsistent with the MSA. NOAA Fisheries provides guidance throughout development of Council actions to ensure that the preferred options selected for implementation are consistent with the MSA and other applicable laws. When the Board takes final action on the addenda, they may select any measure within the range of options that went out for public comment, including combining options across issues.

3.1 Option A. No Action (Revert Back to Managing Based on the RHL)

If the Commission and Council take no action through the Recreational Measures Setting Process Framework/Addenda, the Percent Change Approach will sunset at the end of 2025 and the process for setting recreational measures, starting with 2026 measures, would revert back to the requirements of the FMPs prior to implementation of the Harvest Control Rule Framework/Addenda. Specifically, measures would be set with the primary goal of allowing harvest to meet but not exceed the RHL. Specific methodologies for setting measures to meet but not exceed the RHL are not codified in the FMP. The Monitoring and Technical Committees can provide advice on the preferred methods for setting measures to achieve this goal for each specifications cycle. The Recreation Demand Model, described in more detail in Section 2.2, could be used under this or any other option. Unlike the other options under consideration, under this option, recreational measures would be set for one year at a time. However, the stock assessments would be updated every other year and the full suite of catch and landings limits summarized in Figure 1 would be set during the same years as the assessment updates.

Additional details on how state measures would be set are outlined in Addendum XXXII for summer flounder and black sea bass, Addendum XI for scup, and Amendment 1 for bluefish. However, the bluefish stock will remain in the seven-year rebuilding plan outlined in Amendment 2 until the stock reaches the target level of spawning stock biomass.

Recreational Accountability Measures Under the No Action Option (Option A)

The Magnuson-Stevens Fishery Conservation and Management Act requires that Council FMPs contain provisions for annual catch limits (ACLs) and "measures to ensure accountability." The National Standards Guidelines state that accountability measures (AMs) "are management controls to prevent ACLs, including sector-ACLs, from being exceeded, and to correct or mitigate overages of the ACL if they occur. AMs should address and minimize both the frequency and magnitude of overages and correct the problems that caused the overage in as short a time as possible" (50 CFR 600.310 (g)).

AMs are included in the Council's FMP. They are not included in the Commission's FMP; however, any changes to the AMs considered through this action will be considered by both the Council and Commission.

The current recreational AMs would remain in place under the No Action Option. The current recreational AMs for these species are described in more detail in the federal regulations at 50 CFR 648.103 for summer flounder, 50 CFR 648.123 for scup, 50 CFR 648.143 for black sea bass, and 50 CFR 648.163 for bluefish. Key aspects of these AMs are summarized below.

Summer Flounder, Scup, and Black Sea Bass Recreational AMs

Reactive AMs for the summer flounder, scup, and black sea bass recreational fisheries are triggered when the most recent three-year average recreational catch has exceeded the three-year average recreational ACL. The required AM response varies based on stock status, as described below.

1) If the stock is overfished (i.e., biomass is less than 50% of the target), under a rebuilding plan, or biological reference points (B or B_{MSY}) are unknown: The exact amount, in pounds, by which the most recent three-year average recreational catch has exceeded the three-year average recreational ACL will be deducted in the following fishing year, or as soon as possible once catch data are available. This payback may be evenly spread over 2 years if doing so allows for use of identical recreational measures across the upcoming 2 years.

2) If biomass is at least 50% of the target, but less than 100% of the target, and the stock is not under a rebuilding plan:
    a) If only the recreational ACL has been exceeded, then adjustments to the recreational measures will be made in the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measures and conditions that precipitated the overage.

    b) If overfishing occurred in the most recent year, in addition to the three-year average recreational ACL overage, then a single year deduction will be made as a payback, scaled based on stock biomass.

    The calculation for the payback amount is: (overage amount) * (B_{MSY} - B) / ½ B_{MSY}. This payback may be evenly spread over 2 years if doing so allows for identical recreational measures across the upcoming 2 years. If an estimate of total fishing mortality is not available for the most recent complete year of catch data, then a comparison of total catch relative to the acceptable biological catch (ABC) will be used.

3) If biomass is above the target: Adjustments to the recreational measures will be made for the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measures and conditions that precipitated the overage.

Bluefish Recreational AMs

Reactive recreational AMs for the bluefish recreational fishery are very similar to the process described above for summer flounder, scup, and black sea bass with a few key differences. First, bluefish recreational ACL overages are evaluated, and associated paybacks are calculated, on a 1-year basis as opposed to a 3-year average. Second, if a transfer between the commercial and recreational sectors caused the transferring sector to register an ACL overage, then instead of applying an overage payback to the transferring sector, a transfer in a subsequent year would be reduced by the amount of the ACL overage. These differences are due to the fact that the bluefish FMP allows for transfers of quota between the commercial and recreational sectors (in either direction), while the Summer Flounder, Scup, and Black Sea Bass FMP does not.

3.2 Option B. Percent Change Approach as adopted by the Harvest Control Rule Framework/Addenda

Under this option, the currently implemented Percent Change Approach would be maintained for 2026 and beyond without a sunset. The current Percent Change Approach sunset cannot be extended or removed without management action through a framework/addenda.

Under the Percent Change Approach as currently implemented, measures must aim to achieve a specified percent change in harvest compared to the expectation of harvest in the upcoming two years under current measures. The resulting value of harvest in pounds is referred to as the harvest target.

The harvest target can be equal to, less than, or higher than the RHL. It varies based on the following two factors:

1. A confidence interval (CI) around an estimate of expected harvest in the upcoming two years under current measures compared to the average RHL for the upcoming two years
2. Spawning stock biomass (SSB) compared to the target level (SSB_{MSY}), as defined by the most recent stock assessment.

The resulting percent change in expected harvest that measures should aim to achieve is summarized in Table 1.

Table 1. Process for determining the appropriate percent change in harvest when developing management measures under the currently implemented Percent Change Approach (Option B) (continued on next page).

Future RHL vs Estimated Harvest	Spawning stock biomass compared to target level (SSB/SSB_{MSY})	Change in Expected Harvest
Future 2-year average RHL is **greater than** the upper bound of the harvest estimate CI (harvest expected to be lower than the RHL)	**Very high** (greater than 150% of target)	**Liberalization** percent equal to difference between harvest estimate and 2-year avg. RHL, not to exceed 40%
	High (at least the target, but no higher than 150% of target)	**Liberalization** percent equal to difference between harvest estimate and 2-year avg. RHL, not to exceed 20%
	Low (below target stock size)	**Liberalization:** 10%
Future 2-year average RHL is **within** harvest estimate CI (harvest expected to be close to the RHL)	**Very high** (greater than 150% of target)	**Liberalization:** 10%
	High (at least the target, but no higher than 150% of target)	**No liberalization or reduction:** 0%
	Low (below target stock size)	**Reduction:** 10%

Future 2-year average RHL is **less than** the lower bound of the harvest estimate CI (harvest is expected to exceed the RHL)	**Very high** (greater than 150% of target)	**Reduction:** 10%
	High (at least the target, but no higher than 150% of target)	**Reduction** percent equal to difference between harvest estimate and 2-year avg. RHL, not to exceed 20%
	Low (below target stock size)	**Reduction** percent equal to difference between harvest estimate and 2-year avg. RHL, not to exceed 40%

Under this option, recreational measures would be set during the same year as catch and landings limits in response to updated stock assessment information. It is anticipated that updated stock assessments will be available every other year for all four species; therefore, measures would be set for two years at a time. In interim years, measures would be reviewed and may be modified if new data suggest a major change in the expected impacts of those measures on the stock or the fishery.

This option would not require specific methods for calculating the estimate of harvest under status quo measures and the associated confidence interval. The Monitoring and Technical Committees would provide advice each specifications cycle on the most appropriate methods. Since 2023, the harvest estimates and associated confidence intervals have been calculated using the Recreation Demand Model for summer flounder, scup, and black sea bass. The Recreation Demand Model is described in more detail in Section 2.2.

Although the Percent Change Approach allows harvest to exceed the RHL in some cases, recreational ACL overages can trigger accountability measures (AMs). As previously stated, the RHL is a harvest limit and is derived from the Recreational ACL, which accounts for recreational harvest and dead releases (Figure 1). The current AMs, which are described in Section 3.1, would be maintained under this option. As described in Section 3.1, the response required by the AMs varies based on stock status. Paybacks of ACL overages are required in some circumstances, which would reduce the RHL and possibly the harvest target in future years. In other cases, a payback is not required but measures must be modified.

In addition, under this and all other options in the addenda, the Board and Council may choose to implement more restrictive measures than would otherwise be required in order to address management uncertainty or concerns about the long-term sustainability of the stock.

Under this option, stocks under an approved rebuilding plan would be subject to the measures of that rebuilding plan. This option would not replace any rebuilding plan measures. For example, bluefish has been under a rebuilding plan since 2022. This option cannot be used for bluefish until the stock is no longer in a rebuilding plan (i.e., until biomass reaches the target level). In cases where a stock is declared overfished but a rebuilding plan has not yet been implemented, this option may be used to set temporary measures to be replaced with

rebuilding plan measures as soon as possible. It can take up to two years for a rebuilding plan to be developed, approved, and implemented after a stock is declared overfished.

3.3 Option C: Modified Percent Change Approach Using the RHL and Harvest

This option is similar to the currently implemented Percent Change Approach (Option B). It includes several modifications based on lessons learned from using the Percent Change Approach for setting 2023-2025 recreational measures for summer flounder, scup, and black sea bass. Specifically, this option adds an additional biomass category (i.e., around the target), treats overfished stocks separately, and adds more opportunities for status quo harvest levels.

As with the currently implemented Percent Change Approach, recreational measures under this option must aim to achieve a specified percent change in harvest compared to the expectation of harvest in the upcoming two years under current measures. The resulting value of harvest in pounds is referred to as the harvest target.

The harvest target can be equal to, less than, or higher than the RHL. It varies based on the following two factors:

1) A confidence interval (CI) around an estimate of expected harvest in the upcoming two years under current measures compared to the average RHL for the upcoming two years
2) Spawning stock biomass (SSB) compared to the target level (SSB_{MSY}), as defined by the most recent stock assessment.

The resulting percent change in expected harvest that measures should aim to achieve is summarized in Table 2.

Table 2: Option C - Modified Percent Change Approach using the RHL and harvest (continued on next page).

Future RHL vs Estimated Harvest	**Spawning stock biomass compared to target level** (SSB/SSB_{MSY})	**Change in Expected Harvest**
Future 2-year average RHL is **greater than** the upper bound of the harvest estimate CI (harvest expected to be lower than the RHL)	**Very high** (greater than or equal to 150% of target)	**Liberalization** %= difference between harvest estimate and 2-year avg. RHL, not to exceed 40%
	High (greater than or equal to 110% but less than 150%)	**Liberalization** %= difference between harvest estimate and 2-year avg. RHL, not to exceed 20%
	Around the target (greater than or equal to 90% but less than 110%)	**Liberalization**: 10%
	Low (greater than or equal to 50% but less than 90%)	**No liberalization or reduction**: 0%

Future 2-year average RHL is **within** harvest estimate CI (harvest expected to be close to the RHL)	**Very high to low** (greater than 50%)	**No liberalization or reduction**: 0%
Future 2-year average RHL is **less than** the lower bound of the harvest estimate CI (harvest is expected to exceed the RHL)	**Very high** (greater than or equal to 150% of target)	**No liberalization or reduction**: 0% Unless an AM is triggered[1]
	High (greater than or equal to 110% but less than 150%)	**Reduction:** 10%
	Around the target (greater than or equal to 90% but less than 110%)	**Reduction** %= difference between harvest estimate and 2-year avg. RHL, not to exceed 20%
	Low (greater than or equal to 50% but less than 90%)	**Reduction** %= difference between harvest estimate and 2-year avg. RHL, not to exceed 40%
Biomass compared to target (SSB/SSB_{MSY})	**Change in Harvest**	
Overfished (less than 50% of target)	No liberalizations allowed. Reduction %= difference between harvest estimate and 2-year avg. RHL. To be replaced with rebuilding plan measures as soon as possible	

Under this option, recreational measures would be set in sync with the setting of catch and landings limits in response to updated stock assessment information. It is anticipated that updated stock assessments will be available every other year for all four species; therefore, measures would be set for two years at a time. In interim years, measures would be reviewed and may be modified if new data suggest a major change in the expected impacts of those measures on the stock or the fishery.

As with Option B, this option would not require specific methods for calculating the estimate of harvest under status quo measures and the associated confidence interval. The Monitoring and Technical Committees would provide advice each specifications cycle on the most appropriate methods. Since 2023, the harvest estimates and associated confidence intervals have been calculated using the Recreation Demand Model for summer flounder, scup, and black sea bass. The Recreation Demand Model is described in more detail in Section 2.2.

[1] AMs are highlighted here given that an RHL overage would be expected in this scenario; however, as described in more detail below, AMs apply under all outcomes illustrated in this table.

Under this and all other options in the addenda, the Board and Council may choose to implement more restrictive measures than would otherwise be required to address management uncertainty or concerns about the long-term sustainability of the stock.

Under this option, stocks under an approved rebuilding plan would be subject to the measures of that rebuilding plan. This option would not replace any rebuilding plan measures. As previously stated, bluefish has been under a rebuilding plan since 2022. This option cannot be used for bluefish until the stock is no longer in a rebuilding plan (i.e., until biomass reaches the target level). In cases where a stock is declared overfished but a rebuilding plan has not yet been implemented, this option may be used to set temporary measures to be replaced with rebuilding plan measures as soon as possible. It can take up to two years for a rebuilding plan to be developed, approved, and implemented after a stock is declared overfished.

Recreational Accountability Measures Under Modified Percent Change Approach Using the RHL and Harvest (Option C)

Option C would allow the harvest target to exceed the RHL in some cases. However, accountability measures (AMs) would still be triggered by overages of the recreational ACL. Background information on AMs is provided in Section 3.1. Two sub-options are under consideration for modified recreational AMs under this alternative. Sub-option C-1 would modify the current AMs to better align with the structure of the Modified Percent Change Approach. Sub-option C-1 would also modify the bluefish AMs to align them with the summer flounder, scup, and black sea bass AMs when a transfer between the commercial and recreational sectors has not taken place in the most recent three complete years. Sub-option C-2 would make all the same modifications as sub-option C-1 and would also make additional modifications to give greater consideration to whether overfishing is occurring based on the most recent information.

Sub-Option C-1: Recreational AMs With Modified Biomass Categories

This sub-option would maintain the current recreational AMs as described in Section 3.1 with the modifications and clarification shown below. **Bold** indicates an addition to the current AMs. ~~Strikethrough text~~ indicates a deletion. Note that the language below summarizes but is not identical to the regulatory text.

Under this sub-option, reactive AMs for the summer flounder, scup, and black sea bass recreational fisheries would continue to be triggered when the most recent three-year average recreational catch (i.e., harvest and dead discards) has exceeded the most recent three-year average recreational ACL. For bluefish, this AM would be triggered if recreational catch exceeded the recreational ACL in the most recent single complete year. **However, if there were no transfers between the commercial and recreational bluefish sectors in the most recent three complete years, then the AM for bluefish would be triggered based on an average of the most recent three complete years.** The required AM response varies based on stock status, as described below.

1) If the stock is overfished (i.e., biomass is less than 50% of the target), under a rebuilding plan, or biological reference points (B or B_{MSY}) are unknown: The exact amount, in

pounds, by which the most recent three-year average recreational catch has exceeded the three-year average recreational ACL[2] will be deducted in the following fishing year, or as soon as possible once catch data are available. This payback may be evenly spread over 2 years if doing so allows for use of identical recreational measures across the upcoming 2 years.

2) If biomass is at least 50% of the target, but less than ~~100%~~ **90%** of the target, and the stock is not under a rebuilding plan:
    a) If only the recreational ACL has been exceeded, then adjustments to the recreational measures will be made in the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measures and conditions that precipitated the overage.

    b) If overfishing occurred in the most recent year, in addition to the three-year average recreational ACL overage, then a single year deduction will be made as a payback, scaled based on stock biomass.

    The calculation for the payback amount is: (overage amount) * (B_{MSY} - B) / ½ B_{MSY}. This payback may be evenly spread over 2 years if doing so allows for identical recreational measures across the upcoming 2 years. If an estimate of total fishing mortality is not available for the most recent complete year of catch data, then a comparison of total catch relative to the acceptable biological catch (ABC) will be used.

3) If biomass is ~~above~~ **at least 90% of** the target: Adjustments to the recreational measures ~~will~~ **may**[3] be made for the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measures and conditions that precipitated the overage. **If a liberalization is allowed, the scale of the liberalization may be reduced to account for the AM. The Monitoring Committee will recommend the appropriate adjustment.**

<u>Sub-Option C-2: Recreational AMs with Modified Biomass Categories and Greater Consideration of Overfishing</u>

This sub-option would make the same modifications as summarized above for Option C-1. It would also make additional modifications to give greater consideration to if overfishing is occurring based on the most recent information. **Bold text** below indicates an addition to the current AMs. ~~Strikethrough text~~ indicates a deletion. Note that the language below summarizes but is not identical to the regulatory text.

[2] This is based on the most recent three years for summer flounder, scup, and black sea bass. It is based on the most recent single year for bluefish **unless no transfers between the commercial and recreational sectors have occurred for bluefish in the most recent three complete years. In that case, a three-year average would also be used for bluefish**.

[3] The intent of this change is to allow the flexibility for status quo measures, if appropriate, as an AM when a liberalization is otherwise allowed. Under the current regulations, measures must always be changed when an AM is triggered and the stock is above the biomass target.

Reactive AMs for the summer flounder, scup, and black sea bass recreational fisheries would continue to be triggered when the most recent three-year average recreational catch (i.e., harvest and dead discards) has exceeded the most recent three-year average recreational ACL. For bluefish, this AM would be triggered if recreational catch exceeded the recreational ACL in the most recent single complete year. **However, if there were no transfers between the commercial and recreational bluefish sectors in the most recent three complete years, then the AM for bluefish would be triggered based on an average of the most recent three complete years.** The required AM response varies based on stock status, as described below.

1) If the stock is overfished (i.e., biomass is less than 50% of the target), under a rebuilding plan, or biological reference points (B or B_{MSY}) are unknown: The exact amount, in pounds, by which the most recent three-year average recreational catch has exceeded the three-year average recreational ACL[4] will be deducted in the following fishing year, or as soon as possible once catch data are available. This payback may be evenly spread over 2 years if doing so allows for use of identical recreational measures across the upcoming 2 years.

2) If biomass is at least 50% of the target, but less than ~~100%~~ **90%** of the target, and the stock is not under a rebuilding plan:
    a) If only the recreational ACL has been exceeded, then~~ adjustments to the recreational measures will be made in the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measures and conditions that precipitated the overage~~ **no AM response is needed**.

    b) If overfishing occurred in the most recent year, in addition to the three-year average recreational ACL overage, then a single year deduction will be made as a payback, scaled based on stock biomass.

    The calculation for the payback amount is: (overage amount) * (B_{MSY} - B) / ½ B_{MSY}. This payback may be evenly spread over 2 years if doing so allows for identical recreational measures across the upcoming 2 years. If an estimate of total fishing mortality is not available for the most recent complete year of catch data, then a comparison of total catch relative to the acceptable biological catch (ABC) will be used.

3) If biomass is ~~above~~ **at least 90% of** the target:
    a) **If only the recreational ACL has been exceeded, no AM response is needed.**

[4] This is based on the most recent three years for summer flounder, scup, and black sea bass. It is based on the most recent single year for bluefish **unless no transfers between the commercial and recreational sectors have occurred for bluefish in the most recent three complete years. In that case, a three year average would also be used for bluefish** .

b) **If overfishing occurred in the most recent year, in addition to the three-year average recreational ACL overage,** ~~A~~**a**djustments to the recreational measures ~~will~~ **may**[5] be made for the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measures and conditions that precipitated the overage. **If a liberalization is allowed, the scale of the liberalization may be reduced to account for the AM. The Monitoring Committee will recommend the appropriate adjustment.**

3.4 Option D. Modified Percent Change Approach Using the Recreational ACT and Catch

This option is the same as Option C except instead of using the RHL and harvest, it uses the Recreational ACT and recreational dead catch (i.e., recreational harvest plus dead releases). This would allow for greater consideration of release mortality when setting measures compared to options which aim to achieve a specified level of harvest.

The Recreation Demand Model, which has been used in the process for setting summer flounder, scup, and black sea bass measures since 2023, produces estimates of releases as well as harvest. As previously stated, this model is not available for bluefish; therefore, if this method were to be used for bluefish once the stock is no longer in a rebuilding plan, different methods would be used for bluefish (e.g., an analysis of MRIP data alone or a new modeling approach to be developed for bluefish).

Recreational measures under this option must aim to achieve a specified percent change in recreational catch (i.e., recreational harvest plus dead releases) compared to the expectation of recreational catch in the upcoming two years under current measures. The resulting value of catch in pounds is referred to as the recreational catch target.

The recreational catch target can be equal to, less than, or higher than the ACT. It varies based on the following two factors:

1) A confidence interval (CI) around an estimate of expected catch in the upcoming two years under current measures compared to the average recreational ACT for the upcoming two years and
2) Spawning stock biomass (SSB) compared to the target level (SSB_{MSY}), as defined by the most recent stock assessment.

These two factors are the same as under Options B and C except that the RHL is replaced with the recreational ACT and recreational harvest is replaced with recreational dead catch. The resulting percent change in expected catch that measures should aim to achieve is summarized in Table 3.

[5] The intent of this change is to allow the flexibility for status quo measures, if appropriate, as an AM when a liberalization is otherwise allowed. Under the current regulations, measures must always be changed when an AM is triggered and the stock is above the biomass target.

Table 3: Option D - Modified Percent Change Approach using the recreational ACT and catch.

Future ACT vs Estimated Catch	**Spawning stock biomass compared to target level** (SSB/SSB_{MSY})	**Change in Expected Catch**
Future 2-year average ACT is **greater than** the upper bound of the catch estimate CI (catch expected to be lower than the ACT)	**Very high** (greater than or equal to 150% of target)	**Liberalization** %= difference between catch estimate and 2-year avg. ACT, not to exceed 40%
	High (greater than or equal to 110% but less than 150%)	**Liberalization** %= difference between catch estimate and 2-year avg. ACT, not to exceed 20%
	Around the target (greater than or equal to 90% but less than 110%)	**Liberalization**: 10%
	Low (greater than or equal to 50% but less than 90%)	**No liberalization or reduction**: 0%
Future 2-year average ACT is **within** catch estimate CI (catch expected to be close to the ACT)	**Very high to low** (greater than 50%)	**No liberalization or reduction**: 0%
Future 2-year average ACT is **less than** the lower bound of the catch estimate CI (catch is expected to exceed the ACT)	**Very high** (greater than or equal to 150% of target)	**No liberalization or reduction**: 0% Unless an AM is triggered[6]
	High (greater than or equal to 110% but less than 150%)	**Reduction:** 10%
	Around the target (greater than or equal to 90% but less than 110%)	**Reduction** %= difference between catch estimate and 2-year avg. ACT, not to exceed 20%
	Low (greater than or equal to 50% but less than 90%)	**Reduction** %= difference between catch estimate and 2-year avg. ACT, not to exceed 40%
Biomass compared to target (SSB/SSB_{MSY})	**Change in Harvest**	
Overfished (less than 50% of target)	No liberalizations allowed. Reduction %= difference between harvest estimate and 2-year avg. ACT. To be replaced with rebuilding plan measures as soon as possible	

[6] AMs are highlighted here given that an ACT overage would be expected in this scenario; however, as described in more detail below, AMs apply under all outcomes illustrated in this table.

Under this option, recreational measures would be set in sync with the setting of catch and landings limits in response to updated stock assessment information. It is anticipated that updated stock assessments will be available every other year for all four species; therefore, measures would be set for two years at a time. In interim years, measures would be reviewed and may be modified if new data suggest a major change in the expected impacts of those measures on the stock or the fishery.

Under this and all other options in the addenda, the Board and Council may choose to implement more restrictive measures than would otherwise be required to address management uncertainty or concerns about the long-term sustainability of the stock.

Under this option, stocks under an approved rebuilding plan would be subject to the measures of that rebuilding plan. This option would not replace any rebuilding plan measures. As previously stated, bluefish has been under a rebuilding plan since 2022. This option cannot be used for bluefish until the stock is no longer in a rebuilding plan (i.e., until biomass reaches the target level). In cases where a stock is declared overfished but a rebuilding plan has not yet been implemented, this option may be used to set temporary measures to be replaced with rebuilding plan measures as soon as possible. It can take up to two years for a rebuilding plan to be developed, approved, and implemented after a stock is declared overfished.

Recreational Accountability Measures Under Modified Percent Change Approach Using the ACT and Catch (Option D)

Option D would allow catch to exceed the ACT in some cases. However, accountability measures (AMs) would still be triggered by overages of the recreational ACL. Background information on AMs is provided in Section 3.1. Two sub-options are under consideration for modified recreational AMs under this alternative. Sub-option D-1 would modify the current AMs to better align with the structure of the Modified Percent Change Approach. Sub-option D-1 would also modify the bluefish AMs to align them with the summer flounder, scup, and black sea bass AMs when a transfer between the commercial and recreational sectors has not taken place in the most recent three complete years. Sub-option D-2 would make all the same modifications as sub-option D-1 and would also make additional modifications to give greater consideration to if overfishing is occurring based on the most recent information. These two sub-options are the same as the reactive AM sub-options under consideration for Option C (Modified Percent Change Approach Using the RHL and Harvest) as described in the previous section.

Sub-Option D-1: Recreational AMs With Modified Biomass Categories

This sub-option would maintain the current recreational AMs as described in Section 3.1 with the modification and clarification shown below. **Bold text** indicates an addition to the current AMs. ~~Strikethrough text~~ indicates a deletion. Note that the language below summarizes but is not identical to the regulatory text.

Reactive AMs for the summer flounder, scup, and black sea bass recreational fisheries would continue to be triggered when the most recent three-year average recreational catch (i.e.,

harvest and dead discards) has exceeded the most recent three-year average recreational ACL. For bluefish, this AM would be triggered if recreational catch exceeded the recreational ACL in the most recent single complete year. **However, if there were no transfers between the commercial and recreational bluefish sectors in the most recent three complete years, then the AM for bluefish would be triggered based on an average of the most recent three complete years.** The required AM response varies based on stock status, as described below.

1) If the stock is overfished (i.e., biomass is less than 50% of the target), under a rebuilding plan, or biological reference points (B or B_{MSY}) are unknown: TThe exact amount, in pounds, by which the most recent three-year average recreational catch has exceeded the three-year average recreational ACL[7] will be deducted in the following fishing year, or as soon as possible once catch data are available. This payback may be evenly spread over 2 years if doing so allows for use of identical recreational measures across the upcoming 2 years.

2) If biomass is at least 50% of the target, but less than ~~100%~~ **90%** of the target, and the stock is not under a rebuilding plan:

    a) If only the recreational ACL has been exceeded, then adjustments to the recreational measures will be made in the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measures and conditions that precipitated the overage.

    b) If overfishing occurred in the most recent year, in addition to the three-year average recreational ACL overage, then a single year deduction will be made as a payback, scaled based on stock biomass.

    The calculation for the payback amount is: (overage amount) * (B_{MSY} - B) / ½ B_{MSY}. This payback may be evenly spread over 2 years if doing so allows for identical recreational measures across the upcoming 2 years. If an estimate of total fishing mortality is not available for the most recent complete year of catch data, then a comparison of total catch relative to the acceptable biological catch (ABC) will be used.

3) If biomass is ~~above~~ **at least 90% of** the target: Adjustments to the recreational measures ~~will~~ **may**[8] be made for the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measures

[7] This is based on the most recent three years for summer flounder, scup, and black sea bass. It is based on the most recent single year for bluefish **unless no transfers between the commercial and recreational sectors have occurred for bluefish in the most recent three complete years. In that case, a three year average would also be used for bluefish**.

[8] The intent of this change is to allow the flexibility for status quo measures, if appropriate, as an AM when a liberalization is otherwise allowed. Under the current regulations, measures must always be changed when an AM is triggered and the stock is above the biomass target.

and conditions that precipitated the overage. **If a liberalization is allowed, the scale of the liberalization may be reduced to account for the AM. The Monitoring Committee will recommend the appropriate adjustment.**

Sub-Option D-2: Recreational AMs with Modified Biomass Categories and Greater Consideration of Overfishing

This sub-option would make the same modifications as summarized above for Option C-1. It would also make additional modifications to give greater consideration to if overfishing is occurring based on the most recent information. **Bold text** below indicates an addition to the current AMs. ~~Strikethrough text~~ indicates a deletion. Note that the language below summarizes but is not identical to the regulatory text.

Reactive AMs for the summer flounder, scup, and black sea bass recreational fisheries would continue to be triggered when the most recent three-year average recreational catch (i.e., harvest and dead discards) has exceeded the most recent three-year average recreational ACL. For bluefish, this AM would be triggered if recreational catch exceeded the recreational ACL in the most recent single complete year. **However, if there were no transfers between the commercial and recreational bluefish sectors in the most recent three complete years, then the AM for bluefish would be triggered based on an average of the most recent three complete years.** The required AM response varies based on stock status, as described below.

1) If the stock is overfished (i.e., biomass is less than 50% of the target), under a rebuilding plan, or biological reference points (B or B_{MSY}) are unknown: The exact amount, in pounds, by which the most recent three-year average recreational catch has exceeded the three-year average recreational ACL[9] will be deducted in the following fishing year, or as soon as possible once catch data are available. This payback may be evenly spread over 2 years if doing so allows for use of identical recreational measures across the upcoming 2 years.

2) If biomass is at least 50% of the target, but less than ~~100%~~ **90%** of the target, and the stock is not under a rebuilding plan:
    a) If only the recreational ACL has been exceeded, then~~ adjustments to the recreational measures will be made in the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measures and conditions that precipitated the overage~~ **no AM response is needed**.

[9] This is based on the most recent three years for summer flounder, scup, and black sea bass. It is based on the most recent single year for bluefish **unless no transfers between the commercial and recreational sectors have occurred for bluefish in the most recent three complete years. In that case, a three year average would also be used for bluefish**.

b) If overfishing occurred in the most recent year, in addition to the three-year average recreational ACL overage, then a single year deduction will be made as a payback, scaled based on stock biomass.

The calculation for the payback amount is: (overage amount) * (B_{MSY} - B) / ½ B_{MSY}. This payback may be evenly spread over 2 years if doing so allows for identical recreational measures across the upcoming 2 years. If an estimate of total fishing mortality is not available for the most recent complete year of catch data, then a comparison of total catch relative to the acceptable biological catch (ABC) will be used.

3) If biomass is ~~above~~ **at least 90% of** the target:
   a) **If only the recreational ACL has been exceeded, no AM response is needed.**

   b) **If overfishing occurred in the most recent year, in addition to the three-year average recreational ACL overage, ~~A~~a**djustments to the recreational measures ~~will~~ **may**[10] be made for the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measures and conditions that precipitated the overage. **If a liberalization is allowed, the scale of the liberalization may be reduced to account for the AM. The Monitoring Committee will recommend the appropriate adjustment.**

3.5 Option E. Biomass and Fishing Mortality Matrix Approach

This option uses the following factors to determine if measures should be modified to achieve a specified liberalization or reduction in expected recreational catch (i.e., harvest and dead releases), or if expected catch should remain status quo:

1) Spawning stock biomass (SSB) compared to the target level (SSB_{MSY}), as defined by the most recent stock assessment,
2) Fishing mortality (F) compared to the threshold that defines overfishing (F_{MSY}), as defined by the most recent stock assessment
3) Recreational catch (i.e., harvest and dead releases) compared to the recreational ACL in the prior year (this is only considered when the most recent fishing mortality rate estimate is greater than 105% of F_{MSY}).

The resulting percent change in expected catch that measures should aim to achieve is summarized in Table 4.

Under this option, recreational measures would be set in sync with the setting of catch and landings limits in response to updated stock assessment information. It is anticipated that

[10] The intent of this change is to allow the flexibility for status quo measures, if appropriate, as an AM when a liberalization is otherwise allowed. Under the current regulations, measures must always be changed when an AM is triggered and the stock is above the biomass target.

updated stock assessments will be available every other year for all four species; therefore, measures would be set for two years at a time. In interim years, measures would be reviewed and may be modified if new data suggest a major change in the expected impacts of those measures on the stock or the fishery.

Background information on Accountability Measures (AMs) is included in Section 3.1. Specific responses to recreational ACL overages and overfishing have been incorporated directly into this option, as summarized in the table below. Therefore, additional recreational AMs are not needed.

Under this and all other options in the addenda, the Board and Council may choose to implement more restrictive measures than would otherwise be required to address management uncertainty or concerns about the long-term sustainability of the stock.

Under this option, stocks under an approved rebuilding plan would be subject to the measures of that rebuilding plan. This option would not replace any rebuilding plan measures. As previously stated, bluefish has been under a rebuilding plan since 2022. This option cannot be used for bluefish until the stock is no longer in a rebuilding plan (i.e., until biomass reaches the target level). In cases where a stock is declared overfished but a rebuilding plan has not yet been implemented, this option may be used to set temporary measures to be replaced with rebuilding plan measures as soon as possible. It can take up to two years for a rebuilding plan to be developed, approved, and implemented after a stock is declared overfished.

Table 4: Process for determining if and how measures should be modified to achieve a specified liberalization or reduction of expected catch, or expected catch should remain status quo under the Biomass and Fishing Mortality Matrix Approach.

<table>
<tr><td rowspan="2">Biomass
(SSB/SSB_{MSY})</td><td colspan="4">Fishing mortality compared to F_{MSY}</td></tr>
<tr><td>Overfishing not occurring
(F is less than F_{MSY})</td><td>Overfishing occurring by up to 5% (F exceeds F_{MSY} by up to 5%)</td><td>Overfishing occurring by more than 5% (F exceeds F_{MSY} by more than 5%) and most recent Rec ACL NOT exceeded</td><td>Overfishing occurring by more than 5% and most recent Rec. ACL exceeded</td></tr>
<tr><td>Above the target
(greater than or equal to 110%)</td><td>10% liberalization</td><td colspan="2" rowspan="2">Status quo unless an AM has been triggered[11]</td><td><u>First time a stock falls into this bin</u>: 10% reduction
<u>If stock remains in this bin</u>: reduce catch to achieve Rec. ACT (minimum 10% reduction)</td></tr>
<tr><td>Around the target
(greater than or equal to 90% but less than 110%)</td><td>Status quo</td><td>Reduce catch to achieve Rec. ACT (minimum 10% reduction)</td></tr>
<tr><td>Low
(greater than or equal to 60% but less than 90%)</td><td colspan="4">Reduce catch to achieve Rec. ACT (minimum 10% reduction)
If an AM has been triggered, a scaled overage payback will be deducted from the ACT.[12]</td></tr>
<tr><td>Near overfished
(greater than or equal to 50% but less than 60%)</td><td colspan="4">Reduce catch to achieve Rec. ACT (minimum 20% reduction)
If an AM has been triggered, a scaled overage payback will be deducted from the ACT.[12]</td></tr>
<tr><td>Overfished (less than 50%)</td><td colspan="4">No liberalizations allowed. Reductions as needed to achieve the Rec. ACT. To be replaced with rebuilding plan measures as soon as possible. If an AM has been triggered, a pound-for-pound overage payback will be deducted from the ACT.[13]</td></tr>
</table>

[11]Consistent with the current AMs (see Section 3.1), an AM for summer flounder, scup, and black sea bass would be triggered when the most recent three-year average recreational ACL is exceeded. A recreational AM for bluefish would be triggered based on an overage of the most recent single year recreational ACL. However, if no transfers between the commercial and recreational sectors have occurred for bluefish in the most recent three complete years, then a three year average would also be used for bluefish. Taking into account the performance of the measures and conditions that precipitated the overage, adjustments to the recreational measures may be made for the following year, or as soon as possible once catch data are available. The Monitoring Committee will recommend the appropriate adjustment.

[12]Consistent with the current AMs (see Section 3.1), an AM for summer flounder, scup, and black sea bass would be triggered when the most recent three-year average recreational ACL is exceeded. A recreational AM for bluefish would be triggered based on an overage of the most recent single year recreational ACL. However, if no transfers between the commercial and recreational sectors have occurred for bluefish in the most recent three complete years, then a three year average would also be used for bluefish. The overage amount would be based on this three-year average for summer flounder, scup, and black sea bass and the single year or three year average for bluefish. The payback amount will scale based on stock biomass. The calculation for the payback amount is: (overage amount) * (B_{MSY} - B) / ½ B_{MSY}. This payback will be applied in a single year unless spreading it evenly over 2 years if doing so allows for identical recreational measures across the upcoming 2 years.

[13]Consistent with the current AMs (see Section 3.1), an AM for summer flounder, scup, and black sea bass would be triggered when the most recent three-year average recreational ACL is exceeded. A recreational AM for bluefish would be triggered based on an overage of the most recent single year recreational ACL. However, if no transfers between the commercial and recreational sectors have occurred for bluefish in the most recent three complete years, then a three year average would also be used for bluefish. The overage amount would be based on this three-year average for summer flounder, scup, and black sea bass and the single year or three year average for bluefish. The payback will be deducted in the following fishing year, or as soon as possible once catch data are available. This payback may be evenly spread over 2 years if doing so allows for use of identical recreational measures across the upcoming 2 years.

4.0 Compliance

These Addenda do not implement any changes to current compliance requirements.

5.0 Literature Cited

Atlantic States Marine Fisheries Commission. 2024a. Guidelines for Resource Managers on the Enforceability of Fishery Management Measures; https://asmfc.org/files/LEC/Guidelines_on_Enforceability_May2024.pdf

Atlantic States Marine Fisheries Commission. 2024b. Review of the Interstate Fishery Management Plan for Summer Flounder, 2023 Fishing Year; https://asmfc.org/uploads/file/66c5e9e5SummerFlounder_FMPReview_FY2023.pdf

Atlantic States Marine Fisheries Commission. 2024c. Review of the Interstate Fishery Management Plan for Scup, 2023 Fishing Year; https://asmfc.org/uploads/file/66c5ea58Scup_FMPReview_FY2023.pdf

Atlantic States Marine Fisheries Commission. 2024d. Review of the Interstate Fishery Management Plan for Black Sea Bass, 2023 Fishing Year; https://asmfc.org/uploads/file/66c5eb09BlackSeaBass_FMPReview_FY2023.pdf

Atlantic States Marine Fisheries Commission. 2024e. Review of the Interstate Fishery Management Plan for Bluefish, 2023 Fishing Year; https://asmfc.org/uploads/file/66c5eabeBluefish_FMPReview_FY2023.pdf

Carr-Harris A, Bastille K, Steinback S. 2024. Developing and applying a decision support tool for recreational fishery management of Atlantic summer flounder, black sea bass, and scup.

US Dept Commerce Northeast Fish Sci Cent Tech Memo 320. 48 p. https://doi.org/10.25923/76jb-ck50

NEFSC. 2023a. Summer Flounder Management Track Assessment Report for 2023; https://asmfc.org/uploads/file/65c38bffSF_Management_Track_Assessment_2023.pdf

NEFSC. 2023b. Scup Management Track Assessment Report for 2023; https://asmfc.org/uploads/file/65c38ccbScup_Managment_Track_Assessment_2023.pdf

NEFSC. 2023c. Atlantic Bluefish Management Track Assessment for 2023; https://asmfc.org/uploads/file/65c38974BF_2023_Management_Track_Assessment.pdf

NEFSC. 2024. Black Sea Bass 2024 Management Track Assessment Report; https://asmfc.org/uploads/file/670024522024_BSB_UNIT_REPORT-3.pdf

Appendices

Appendix A - List of Acronyms and Abbreviations

ACL	Annual Catch Limit
ACT	Annual Catch Target
AM	Accountability Measure
ASMFC	Atlantic States Marine Fisheries Commission
B	Biomass
B_{MSY}	Biomass at maximum sustainable yield (biomass target)
CI	Confidence interval
Commission	Atlantic States Marine Fisheries Commission
Council	Mid-Atlantic Fishery Management Council
FMP	Fishery Management Plan
MAFMC	Mid-Atlantic Fishery Management Council
MRIP	Marine Recreational Information Program
MSA	Magnuson-Stevens Fishery Conservation and Management Act
RHL	Recreational Harvest Limit
SSB	Spawning stock biomass
SSB_{MSY}	Spawning stock biomass at maximum sustainable yield (biomass target)

Appendix B - Decision Trees for Options B-E

This Appendix provides decision trees to aid readers in moving through how recreational measures would be changed under each of the proposed approaches and the questions asked through each step of the process.

Figure 6. Option B – Percent Change Approach as adopted by the Harvest Control Rule Framework/Addenda. For more information on this option, please refer to section 3.2.

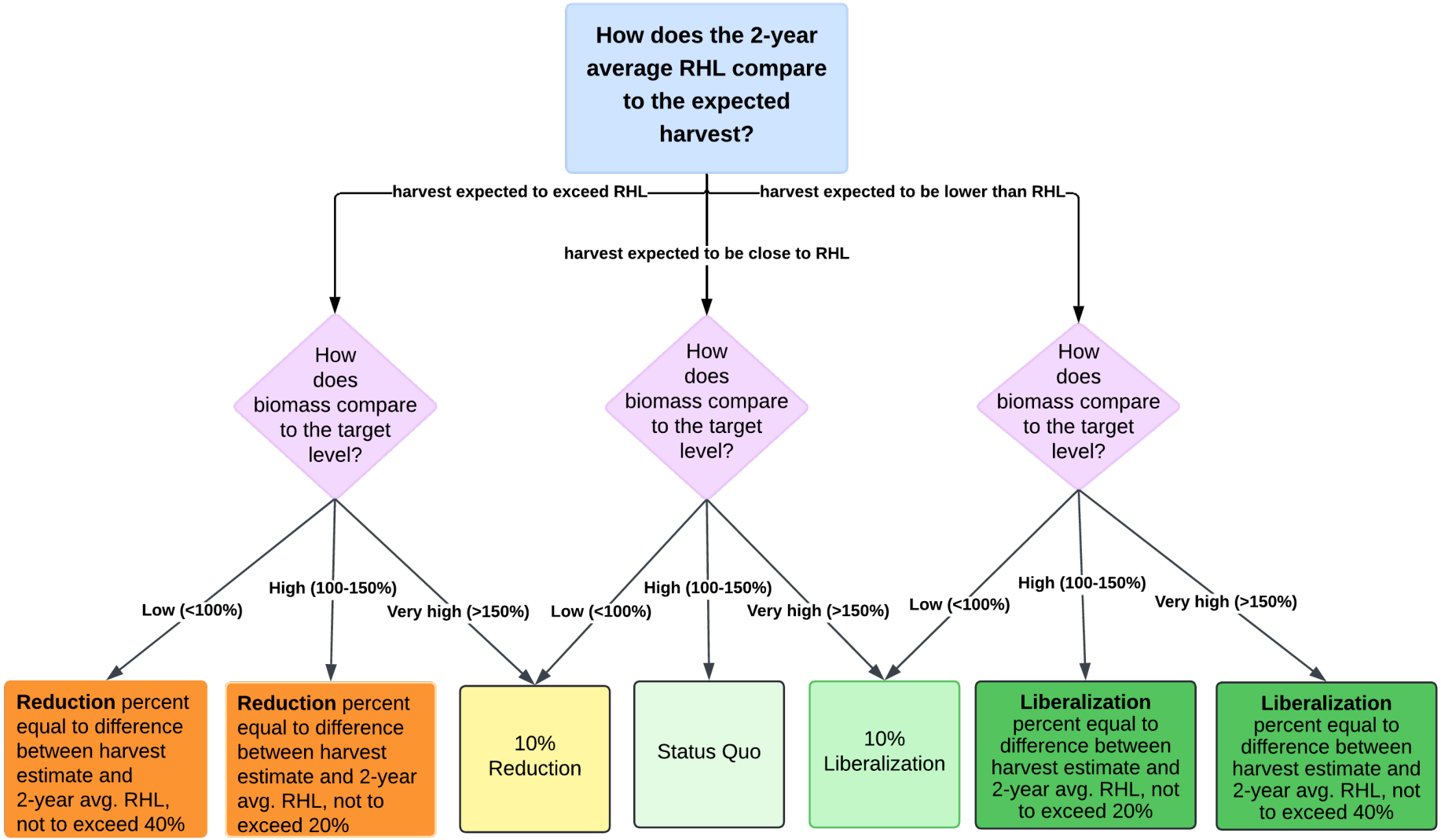


Figure 7. Option C – Modified Percent Change Approach Using the RHL and Harvest. For more information on this option, please refer to Section 3.3.

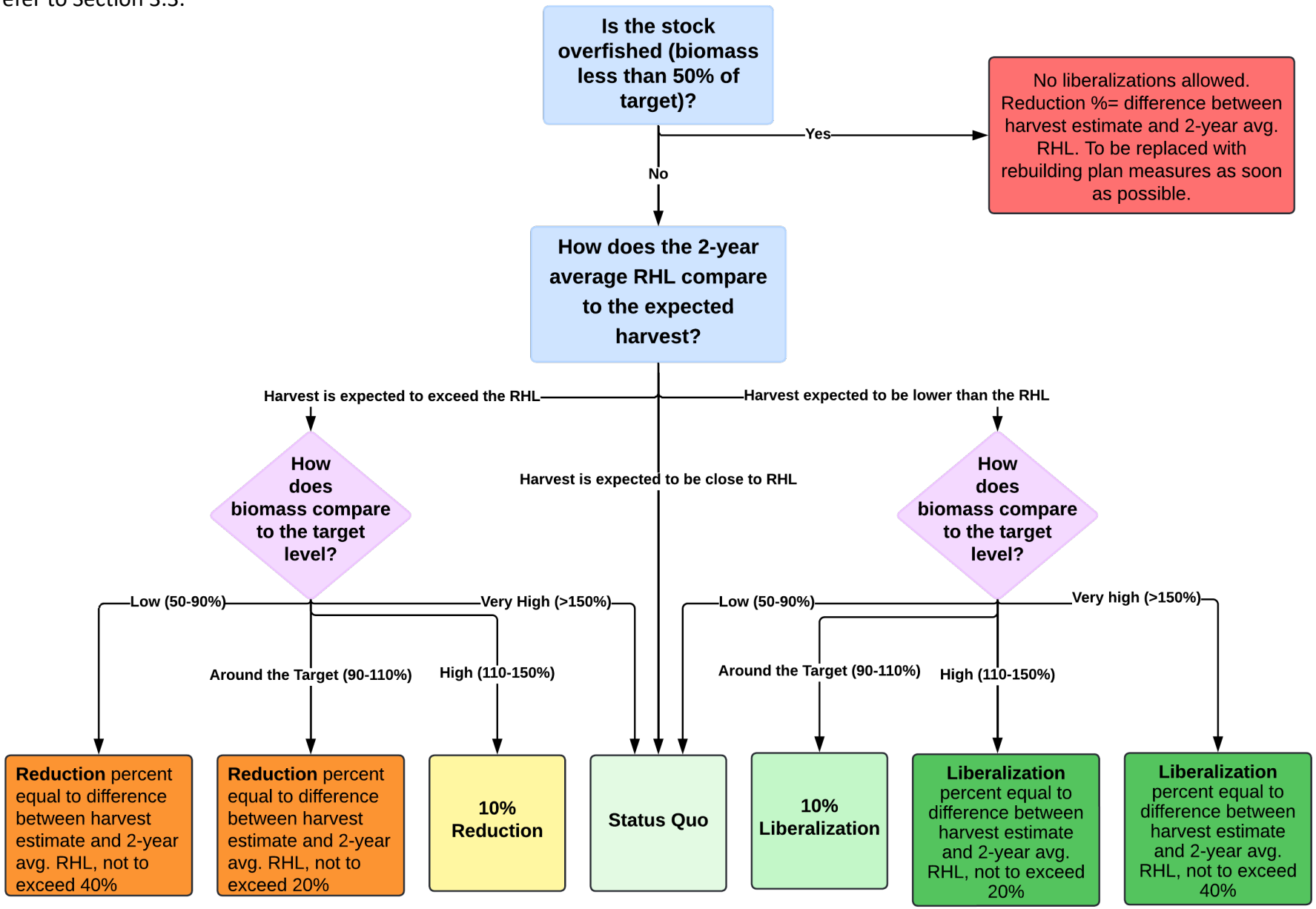


Figure 8. Option D – Modified Percent Change Approach Using the Recreational ACT and Catch. For more information on this option, please refer to Section 3.4.

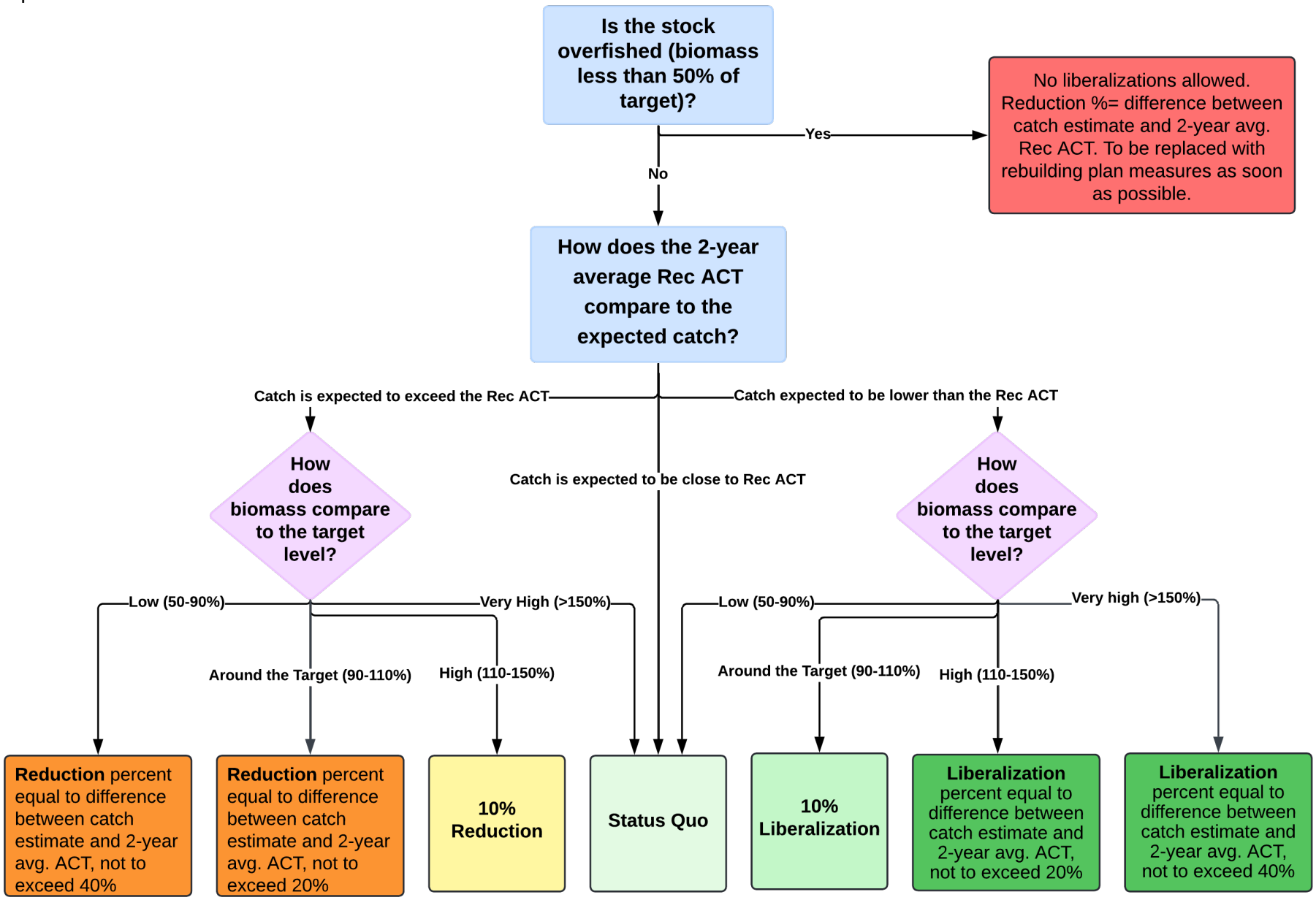
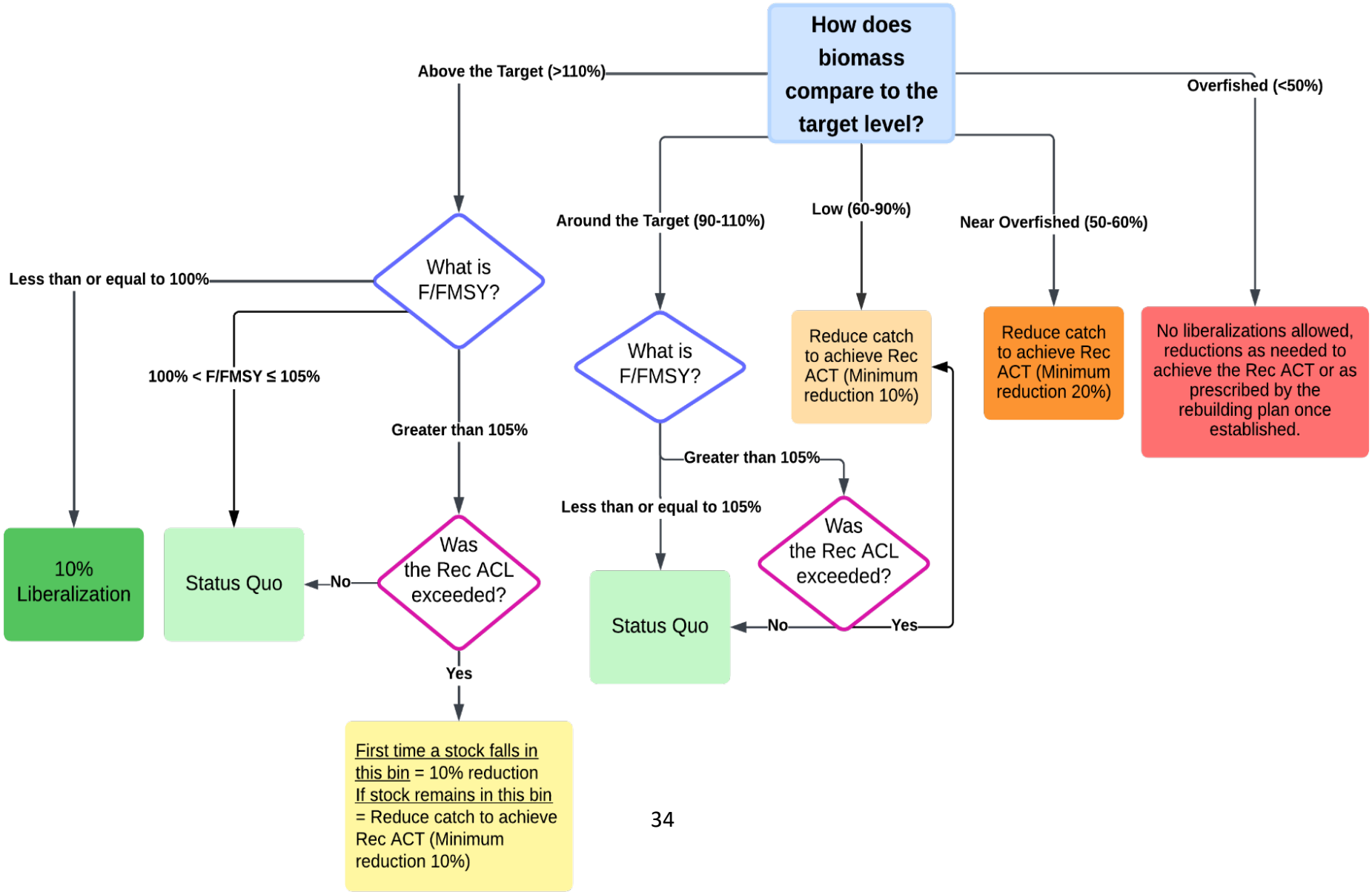


Figure 9. Option E – Biomass and Fishing Mortality Matrix Approach. For information on how AMs interact with this option, please refer to Section 3.5, Table 4.



Appendix C - Example resulting percent change for summer flounder, scup, black sea bass, and bluefish under each option using recent data

This table below provides *example* percent changes in harvest or catch for each species under each option in these addenda. The examples for summer flounder, scup, and black sea bass are based on estimates of 2024 recreational harvest or dead catch (i.e., harvest plus dead releases) under 2023 measures from the Recreation Demand Model (see Section 2.2 for a description of the Recreation Demand Model). These examples do not necessarily reflect the outcome of the process that was used for setting 2024 measures. These examples are intended to help allow for comparisons across the options. They are not intended to predict future changes in recreational measures. The resulting percent changes implemented in future years are expected to differ from those shown below based on updated information.

As previously described, while bluefish remains in a rebuilding plan, bluefish measures will be set based on that rebuilding plan and not based on the options considered in this document. In addition, the Recreation Demand Model is not available for bluefish.

Table 5. *Example* percent change in harvest or catch (i.e., harvest plus dead releases) that recreational measures should aim to achieve for each species under each option. These are examples to allow for comparisons across the options and are not intended to predict measures in future years. Note that harvest and catch-based percentages are not directly comparable.

Species	**Option A** (No Action)	**Option B** (Currently Implemented Percent Change Approach)	**Option C** (Modified Percent Change Approach Using RHL and Harvest)	**Option D** (Modified Percent Change Approach Using ACT and Catch)	**Option E** (Biomass and Fishing Mortality Matrix Approach)
Summer Flounder	-28% (harvest)	-28% (harvest)	-28% (harvest)	-26% (catch)	-26% (catch)
Scup	-14% (harvest)	-10% (harvest)	0% (status quo; harvest)	0% (status quo; catch)	0% (status quo; catch)
Black Sea Bass	-25% (harvest)	-10% (harvest)	0% (status quo; harvest)	0% (status quo; catch)	0% (status quo; catch)
Bluefish	Subject to Amendment 2 rebuilding plan				