Draft Addendum for Public Comment

Atlantic States Marine Fisheries Commission

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

Conservation Equivalency and Block Island Sound Transiting

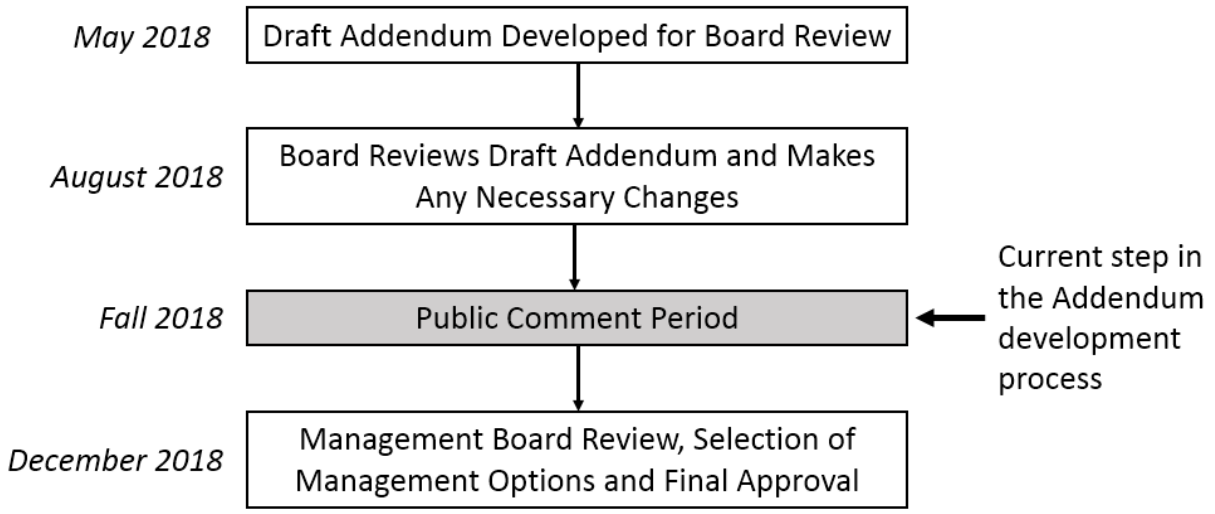
October 2018

Vision:
Sustainably Managing Atlantic Coastal Fisheries

Draft Addendum for Public Comment

Public Comment Process and Proposed Timeline

In December 2017, the Summer Flounder, Scup, and Black Sea Bass Management Board (Board) and the Mid-Atlantic Fishery Management Council (Council) initiated development of an addendum and framework to the Interstate Fishery Management Plan (FMP) for Summer Flounder, Scup, and Black Sea Bass. The Draft Addendum addresses conservation equivalency, and transit provisions, and the Council's framework also addresses slot limits. This document presents background on summer flounder, scup and black sea bass management; the addendum process and timeline; and a statement of the problem. It also provides management options for public consideration and comment.



The public is encouraged to submit comments regarding this document at any time during the public comment period. The final date comments will be accepted is November 29, 2018 at 5:00 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.

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1.0 Introduction

This Draft Addendum is proposed under the adaptive management/framework procedures of Amendment 12 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP). Summer flounder, scup, and black sea bass fisheries are managed cooperatively through the Atlantic States Marine Fisheries Commission (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 management unit for summer flounder is US waters from the southern border of North Carolina northward to the US-Canadian border. For scup and black sea bass, the management unit is U.S. waters from Cape Hatteras, North Carolina northward to the U.S.-Canadian border.

The Commission's Summer Flounder, Scup, and Black Sea Bass Management Board (Board) and the Council approved the following motion on December 13, 2017:

> *Move to initiate a framework/addendum to address the three topics (recreational conservation equivalency for black sea bass, transit provisions for summer flounder, scup, black sea bass and slot limits for summer flounder and black sea bass) discussed today.*

This Draft Addendum and the complementary framework action developed by the Council propose management options to address these three topics, as further refined by the Board and Council in April 2018. The options are described in more detail in section 3 of this document.

Note: This action does not consider implementing black sea bass conservation equivalency or slot limits for any of the three species in 2019. Rather, the options would update the FMPs to allow these management tools to be used in future years.

2.0 Overview

2.1 Statement of Problem

The Commission and Council recognize that fisheries management can benefit from the ability to apply a variety of management strategies. In addition, these bodies strive to improve the compatibility of state and federal fishery management programs. This Draft Addendum and the Council's complementary framework aim to increase the diversity of tools available for managing summer flounder, scup and black sea bass, as well as reduce conflict between state and federal regulations. Specifically, the Board and Council identified conservation equivalency for black sea bass, conservation equivalency rollover for summer flounder, Block Island Sound transit provisions, and slot limits as management strategies that could address these goals.

State and federal waters measures for the same species are not always identical. For example, federal waters are sometimes closed to certain fisheries while state waters are open. In addition, possession limits and minimum fish sizes sometimes differ between state and federal waters. Discrepancies between state and federal regulations can be confusing for fishermen, which can result in noncompliance. They also create challenges for enforcement. The

conservation equivalency and Block Island Sound transit options address situations where state and federal waters differ and could help address some of these issues.

The current Commission and Council FMPs require uniform coastwide management measures for black sea bass in state and federal waters; however, the fisheries vary by state in terms of availability, seasonality, and other factors. As a result, this one size fits all approach has had disproportionate impacts on some states. Since 2011, the Commission has adopted a series of addenda to allow states to temporarily deviate from this requirement and adopt measures that are more appropriate for their fisheries. This Draft Addendum considers options which would allow the black sea bass federal waters measures to be waived in favor of the regulations of the states where anglers land their catch. This would help address the disproportionate impacts of uniform coastwide measures on some states.

The Council's framework will have slot limit alternatives that consider adding an additional management tool (i.e. a maximum size limit) to the suite of options available to the Board and Council for managing recreational summer flounder, scup, and black sea bass fisheries. Some stakeholders have requested that the Board and Council consider use of slot limits to reduce fishing pressure on large female summer flounder; however, this is not currently possible under the Council FMP. This document does not have options for the Commission to take action on slot limits because it is already a tool available for management use by the Board. The Council's Framework action considers updating the FMP to allow this type of management to be used in the future by both bodies.

2.2 Background

In December 2015, the Council and Board passed a motion to begin development of a black sea bass amendment to address a variety of commercial and recreational issues, including areas of discrepancy between the Commission and Council FMPs (e.g., allocations in state waters but coastwide landings limits in federal waters; situations where state and federal waters measures differ), commercial allocations, alternative recreational management strategies, and other issues.

Development of the amendment was delayed due to other priorities taking precedence. In December 2017, the Board and Council re-evaluated the need for the amendment and agreed to postpone its development. Instead, they initiated a framework and addendum to address three specific issues: 1) recreational conservation equivalency for black sea bass, 2) Block Island Sound transit provisions for summer flounder, scup, black sea bass, and 3) slot limits for summer flounder and black sea bass.

The options were further developed after a meeting of the Board and Council in April 2018. The Board and Council agreed to add options for conservation equivalency rollover for summer flounder, as well as Block Island Sound transit provisions for commercial vessels. The options are described in more detail in section 3. A summary of the potential impacts of these options is provided in Appendix I.

Conservation Equivalency for Recreational Black Sea Bass and Summer Flounder

The Summer Flounder, Scup, and Black Sea Bass FMP requires uniform coastwide measures (applying to state and federal waters) for the recreational black sea bass fishery. From 1996 to 2010, uniform coastwide minimum fish size, season, and bag limits were used by the Commission and Council to constrain the recreational fishery to the annual recreational harvest limit (RHL). In recent years, the Commission has implemented addenda to allow temporary deviations from this requirement in state waters. In response to state concerns that coastwide regulations disproportionately impacted certain states, the Board approved a series of addenda that allowed for state-by-state flexibility – first through state shares in 2011 and then through an ad-hoc regional management approach from 2012–2018.

Under the ad-hoc process used for 2012-2018, the Council and Board agreed to coastwide federal waters measures each year. Individual states or regions then worked through the Commission process to develop measures for state waters that would constrain harvest to the RHL. In recent years, the states of New Jersey north have implemented management measures in state waters that differed from the federal waters measures.

Although the ad-hoc process allowed for variance in state or regional measures in state waters, uniform coastwide measures were still applied in federal waters. In some cases, differences between state and federal waters measures resulted in angler confusion and noncompliance, state/federal water transit issues (e.g. Block Island), and permitting problems for federal party/charter permit holders. The options considered in this addendum are intended to address some of these issues.

Conservation equivalency could resolve some of these issues by allowing measures for federal waters to be waived in favor of state or regional measures, that, when taken as a whole, are the conservation equivalent (i.e. would achieve the same amount of harvest) of the non-preferred coastwide measures. **Section 3.1** of this document presents options for the use of conservation equivalency in black sea bass recreational management, including the opportunity to allow for conservation equivalency rollover.

The FMP allows for the use of conservation equivalency in recreational summer flounder management, but only on a year-to-year basis. **Section 3.2** presents options for allowing conservation equivalency rollover for the recreational summer flounder fishery.

Block Island Sound Transit Provisions

From 2009-2017, the federal waters recreational black sea bass fishery was closed for at least a few weeks each fall/winter. The dates of the closure varied by year (Table 1, p. 18). These closures sometimes occurred when Rhode Island and other northern state waters were open, resulting in transit issues for vessels harvesting black sea bass in the state waters around Block Island. Specifically, vessels retaining black sea bass legally caught in the state waters around Block Island were unable to transit back to the mainland without violating federal regulations. Additionally, federal permit requirements prevent non-federally permitted for-hire and commercial vessels from transiting Block Island Sound while in possession of black sea bass,

summer flounder, or scup legally harvested from the state waters around Block Island. **Section 3.3** of this addendum proposes options for addressing these issues.

Slot Limits

Slot limits may be implemented through the Commission process for summer flounder by states or regions through conservation equivalency, and for black sea bass and scup for state waters measures only. However, the Council FMP does not allow for specification of a maximum size limit for summer flounder, scup, or black sea bass. Therefore, slot limits may not be used as a management tool for these fisheries in federal waters. The Council's complementary framework will propose alternatives to address this issue.

2.3 Description of the Fisheries

Summer Flounder

Over the past 30 years (i.e. 1988-2017), commercial and recreational summer flounder landings from Maine through North Carolina averaged 21.25 million pounds. Commercial landings from 2011-2017 show a decreasing trend. Recreational landings show a less consistent, but generally downward trend since 2011. In 2017, commercial fishermen from Maine through North Carolina landed about 5.83 million pounds and recreational fishermen landed about 3.19 million pounds[1] (Figure 1).

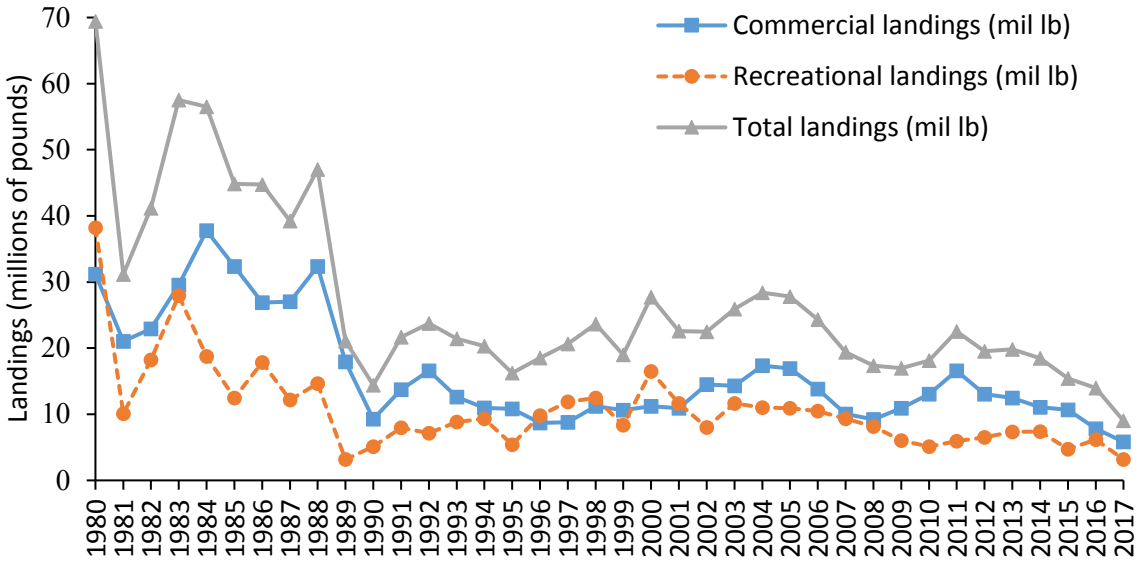

Figure 1: Commercial and recreational summer flounder landings in millions of pounds, Maine-North Carolina, 1980-2017 according to commercial dealer data and MRIP data.

[1]All recreational harvest information presented in this document is based on MRIP estimates using the Coastal Household Telephone Survey (CHTS), and does not incorporate new estimates produced by the recalibration for the transition from the CHTS to the Fishing Effort Survey and the Access Point Angler Intercept Survey design change.

Most landings in the commercial fishery are taken with bottom otter trawls (about 96% in 2017). The recreational fishery is predominantly a hook and line fishery. According to data from the Marine Recreational Information Program (MRIP), from 2013-2017, on average about 83% of the summer flounder harvested by recreational fishermen were caught from private or rental boats. About 13% were caught on party or charter boats and about 4% were caught from shore.

Most commercial catch occurs off southern New England, New York, and New Jersey; however, most commercial landings occur in North Carolina, Virginia, New Jersey, and Rhode Island, largely due to greater allocations of quotas to those states compared to other states.

Over the past 10 years (i.e. 2008-2017), about 87% of recreational harvest (based on numbers of fish) occurred in state waters, with the remainder in federal waters. In recent years, most recreational summer flounder landings occurred in New York and New Jersey.

Scup

Over the past 30 years (i.e. 1988-2017), commercial and recreational scup landings from Maine through North Carolina averaged 15.98 million pounds. Commercial landings have been generally increasing since 2008. Recreational landings have remained at a fairly constant level since about 2005. In 2017, commercial fishermen from Maine through North Carolina landed about 15.45 million pounds of scup and recreational fishermen landed about 5.42 million pounds (Figure 2).

Most landings in the commercial fishery are taken with bottom otter trawls (e.g. about 97% in 2017). The recreational fishery is predominantly a hook and line fishery. According to MRIP data, during 2013-2017, on average about 60% of the scup harvested by recreational fishermen were caught from private or rental boats. About 25% were caught on party or charter boats and about 15% from shore.

Most commercial catch occurs off Southern New England, New York, and New Jersey. Over the past 10 years (i.e. 2008-2017), about 97% of recreational harvest (based on numbers of fish) occurred in state waters, with the remainder in federal waters. Over 99% of scup caught by recreational fishermen during 2008-2007 were caught from Massachusetts through New Jersey.

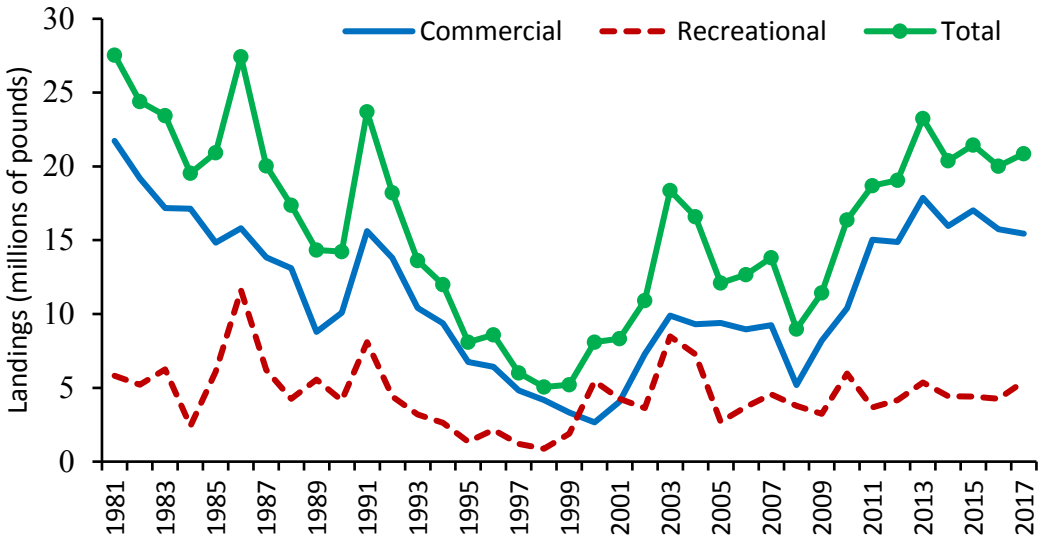

Figure 2: Commercial and recreational scup landings, Maine - North Carolina, 1981-2017 according to commercial dealer data and MRIP data.

Black Sea Bass

Over the past 30 years (i.e. 1988-2017), commercial and recreational black sea bass landings from Maine through North Carolina averaged 5.91 million pounds. Both commercial and recreational landings have been generally increasing since 2011. In 2017, commercial fishermen landed about 3.99 million pounds of black sea bass and recreational fishermen landed about 3.93 million pounds (Figure 3).

Most landings in the commercial fishery are taken with bottom otter trawls (e.g. about 73% in 2017). The recreational fishery is predominantly a hook and line fishery. According to MRIP data, during 2013-2017, on average about 71% of the black sea bass harvested by recreational fishermen from Maine through North Carolina were caught from private or rental boats. About 27% were caught on party or charter boats and about 1% from shore.

Commercial catch mostly occurs off Southern New England through Maryland. Over the past 10 years (i.e. 2008-2017), about 65% of recreational harvest (based on numbers of fish) occurred in state waters, with the remainder in federal waters. About 73% of the black sea bass caught by recreational fishermen during 2008-2007 were caught in New York, New Jersey, and Massachusetts.

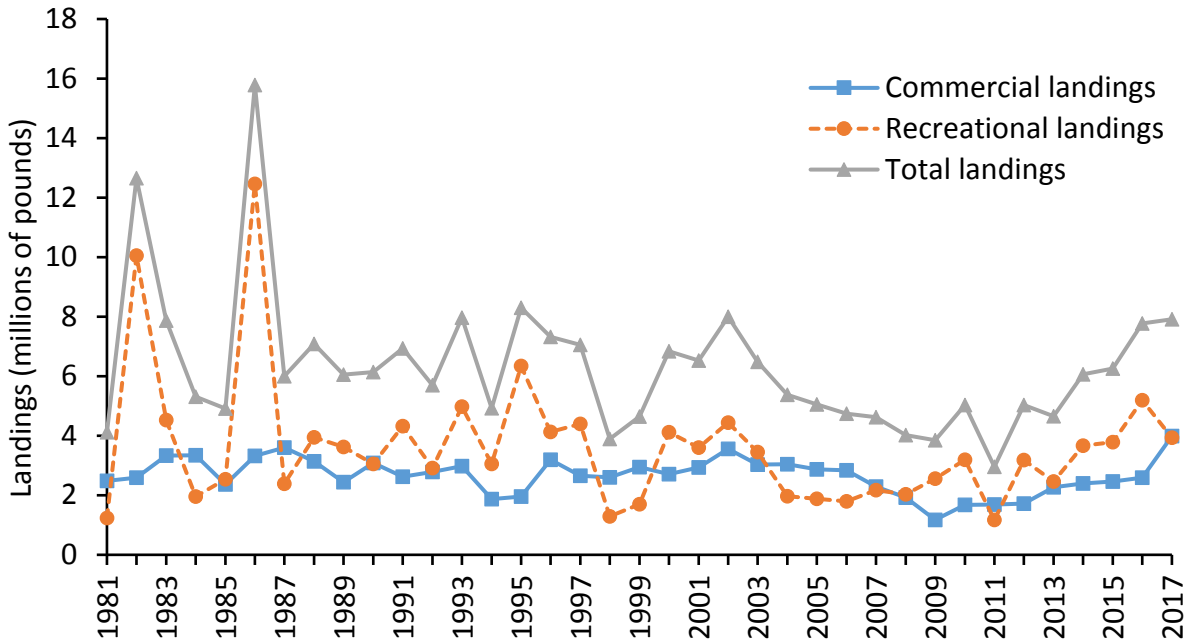

Figure 3: Commercial and recreational black sea bass landings in millions of pounds from Maine through Cape Hatteras, North Carolina, 1981-2017 according to commercial dealer data and MRIP data. Recreational landings prior to 2004 include all North Carolina landings.

2.4 Life History

Summer Flounder

Summer flounder habitat includes pelagic waters, demersal waters, saltmarsh creeks, seagrass beds, mudflats, and open bay areas from the Gulf of Maine through North Carolina. They spawn during the fall and winter over the open ocean areas of the continental shelf. From October to May, larvae and postlarvae migrate inshore, entering coastal and estuarine nursery areas. Juveniles are distributed inshore and in many estuaries during spring, summer, and fall. Adults exhibit seasonal inshore-offshore movements, normally inhabiting shallow coastal and estuarine waters during the warmer months of the year and remaining offshore during the colder months (Packer et al. 1999).

Most fish are sexually mature by age 2. The largest fish are females, which can attain lengths of over 90 cm (36 in) and weights up to 11.8 kg (26 lb). Recent northeast fisheries science center (NEFSC) trawl survey data indicate that female summer flounder grow faster (reaching a larger size at the same age), but the sexes attain about the same maximum age (age 15 at 56 cm for males and age 14 at 65 cm for females). Unsexed commercial fishery samples currently indicate a maximum age of 17 for an 85 cm fish (M. Terceiro, NEFSC, personal communication).

Summer flounder are opportunistic feeders; their prey includes a variety of fish and crustaceans. Predators of adult summer flounder are not fully documented; however, larger predators (e.g., large sharks, rays, and monkfish) probably include summer flounder in their diets (Packer et al. 1999).

Scup

Scup are a schooling, demersal (i.e. bottom-dwelling) species. They are found in a variety of habitats, including areas with sandy or muddy bottoms, mussel beds, and seagrass beds. Scup undertake extensive seasonal migrations between coastal and offshore waters. They are found in estuaries and coastal waters during the spring and summer. In the fall and winter, they move offshore and to the south, to outer continental shelf waters south of New Jersey. Scup spawn once annually over weedy or sandy areas, mostly off southern New England. Spawning takes place from May through August and usually peaks in June and July (Steimle et al. 1999).

About 50% of scup are sexually mature at two years of age and about 17 cm (about 7 inches) total length. Nearly all scup older than three years of age are sexually mature. Scup reach a maximum age of at least 14 years. They may live as long as 20 years; however, few scup older than 7 years are caught in the Mid-Atlantic (Northeast Data Poor Stocks Working Group 2009, NEFSC 2015).

Adult scup are benthic feeders. They consume a variety of prey, including small crustaceans (including zooplankton), polychaetes, mollusks, small squid, vegetable detritus, insect larvae, hydroids, sand dollars, and small fish. The NEFSC's food habits database lists several predators of scup, including several shark species, skates, silver hake, bluefish, summer flounder, black sea bass, weakfish, lizardfish, king mackerel, and monkfish (Steimle et al. 1999).

Black Sea Bass

Black sea bass are distributed from the Gulf of Maine through the Gulf of Mexico. Genetic studies have identified three stocks within that range. Black sea bass north of Cape Hatteras, North Carolina are considered one unit stock. Adults and juveniles are mostly found on the continental shelf. Young-of-the-year (i.e. fish less than one year old) can be found in estuaries. Adults prefer to be near structures such as rocky reefs, coral patches, cobble and rock fields, mussel beds, and shipwrecks. Adults in the Mid-Atlantic show strong site fidelity during the summer and migrate to offshore wintering areas south of New Jersey when water temperatures decrease in the fall. Adults in the South Atlantic and Gulf of Mexico do not migrate during the winter (Drohan et al. 2007).

Black sea bass are protogynous hermaphrodites, meaning they are born female with some later transitioning to males, usually around 2-5 years of age. Male black sea bass are either of the dominant or subordinate type. Dominant males are larger than subordinate males and develop a bright blue nuccal hump during the spawning season. Most black sea bass greater than 19 cm (about 7.5 inches) are either in a transitional stage between female and male or have fully transitioned to the male stage. Results from a simulation model highlight the importance of subordinate males in the spawning success of black sea bass. This increases the resiliency of the population to exploitation compared to other species with a more typical protogynous life history. About half of black sea bass are sexually mature by 2 or 3 years of age and about 20 cm (about 8 inches) in length. Black sea bass reach a maximum size of about 60 cm (about 24 inches) and a maximum age of about 12 years (Drohan et al. 2007, Blaylock and Shepherd 2016).

Black sea bass in the Mid-Atlantic spawn in nearshore continental shelf areas at depths of 20-50 meters. Spawning usually takes place between April and October. During the summer, adult black sea bass share complex coastal habitats with tautog, hakes, conger eel, sea robins and other migratory fish species. Juvenile and adult black sea bass mostly feed on crustaceans, small fish, and squid. The NEFSC food habits database lists spiny dogfish, Atlantic angel shark, skates, spotted hake, summer flounder, windowpane flounder, and monkfish as predators of black sea bass (Drohan et al. 2007).

2.5 Status of the Stock

Summer Flounder

The most recent summer flounder stock assessment update was completed in July 2016 and indicated the stock was not overfished, but overfishing was occurring in 2015. Spawning stock biomass (SSB) was estimated to be 79.9 million pounds in 2015, about 58% of the target level. The fishing mortality rate (F) in 2015 was 0.390, 26% above the threshold level that defines overfishing (Figures 4 and 5; NEFSC 2016).

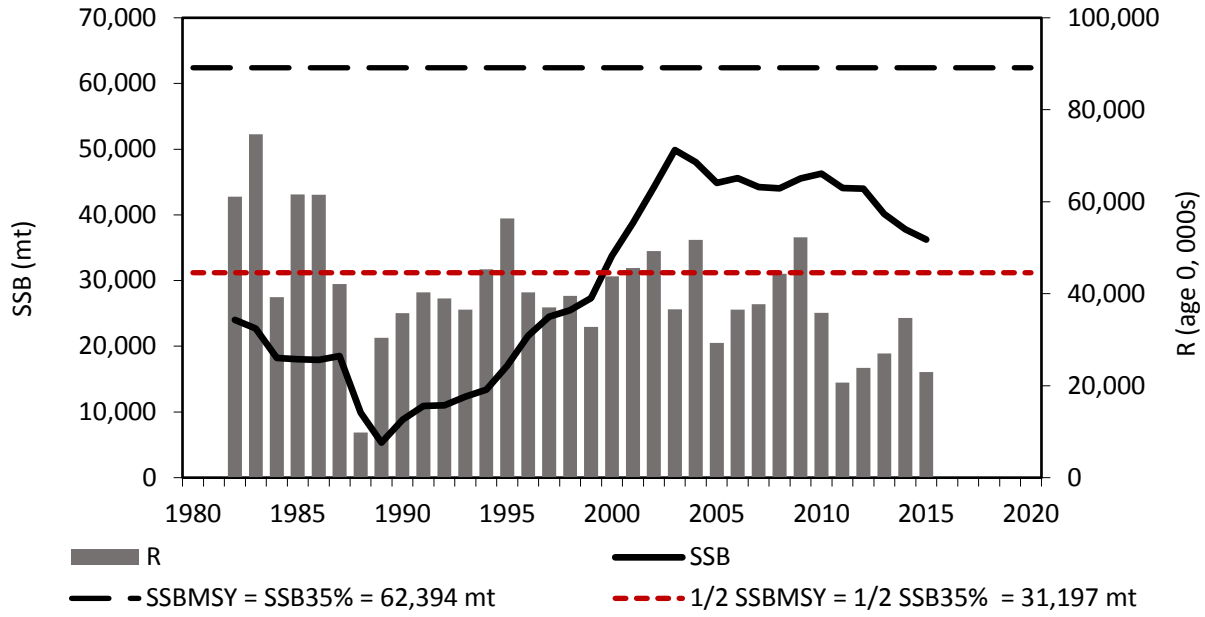

Figure 4: Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year, 1982-2015. The horizontal long-dashed line is the SSB target reference point proxy, the horizontal short-dashed red line is the biomass threshold reference point proxy (NEFSC 2016).

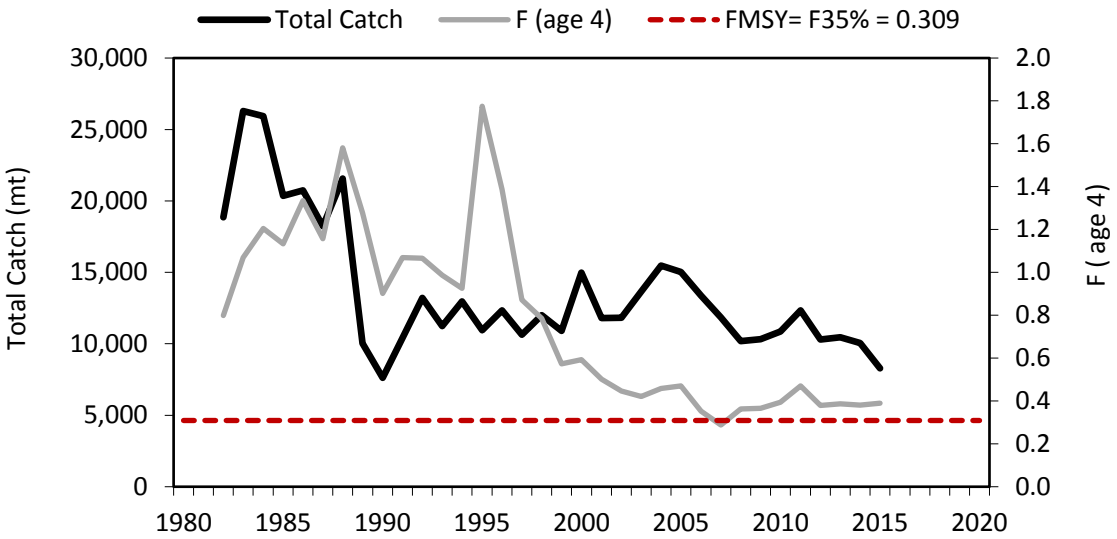

Figure 5: Total fishery catch and fishing mortality rate of summer flounder, 1982-2015. The horizontal dashed red line is the fishing mortality threshold reference point proxy (NEFSC 2016).

The NEFSC provided a data update for 2018, with catch, landings, and fishery-independent survey indices through 2017. State and federal survey abundance and biomass indices have generally decreased from their most recent peaks during 2009-2012 to 2017, with the exception of the Massachusetts and Delaware indices. However, most indices are variable in recent years and some show signs of slight to moderate rebounding. The NEFSC fall survey was unable to sample the summer flounder strata in 2017, however, the NEFSC spring survey biomass index increased between 2017 and 2018. The Delaware index peaked in 2017. Indices of recruitment (i.e. age 0 fish) have generally been below average over the last 6-7 years. Recruitment indices in 2017 were highly variable (NEFSC 2018a).

A new benchmark stock assessment for summer flounder is scheduled to undergo peer review in November 2018, with results expected to be available in early 2019.

Scup

An update to the 2015 benchmark stock assessment indicated the scup stock was not overfished and overfishing was not occurring in 2016. SSB was estimated to be 396.6 million pounds in 2016, about 2.1 times the target level (Figure 6; NEFSC 2015, NEFSC 2017).

Fishing mortality was estimated to be 0.139 in 2016, 37% below the threshold level that defines overfishing (Figure 7). The 2015 year class (i.e. those scup spawned in 2015) was estimated to be the largest since at least 1984 at 252 million fish. The 2016 year class is estimated to be 65 million fish, about 47% below the average (Figure 6; NEFSC 2017).

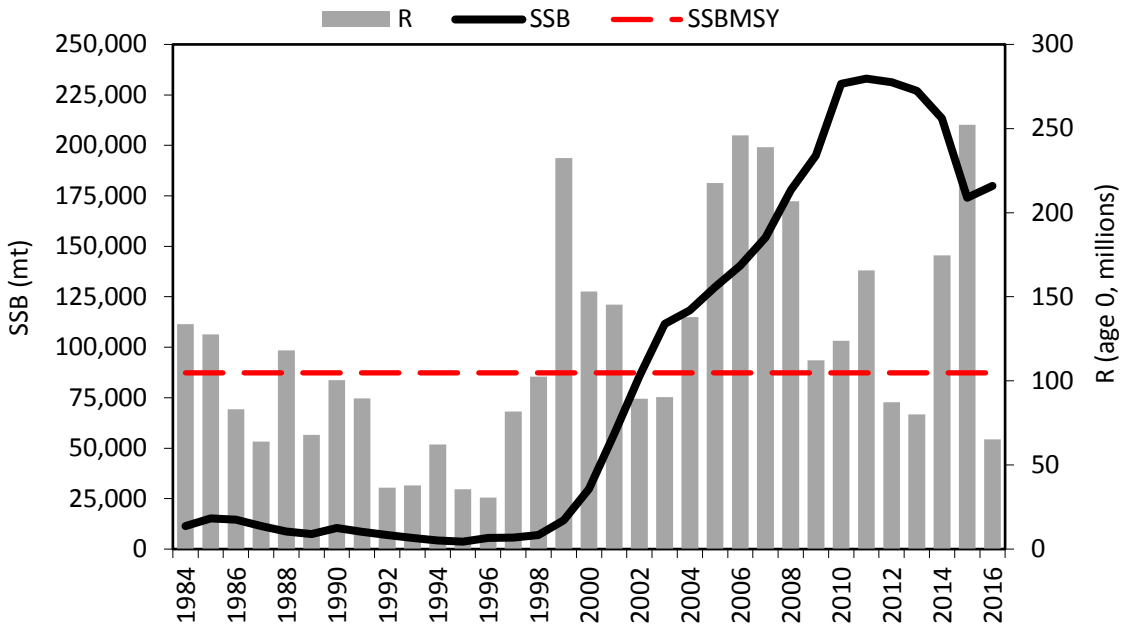

Figure 6: Scup spawning stock biomass and recruitment, 1984-2016 (NEFSC 2017a).

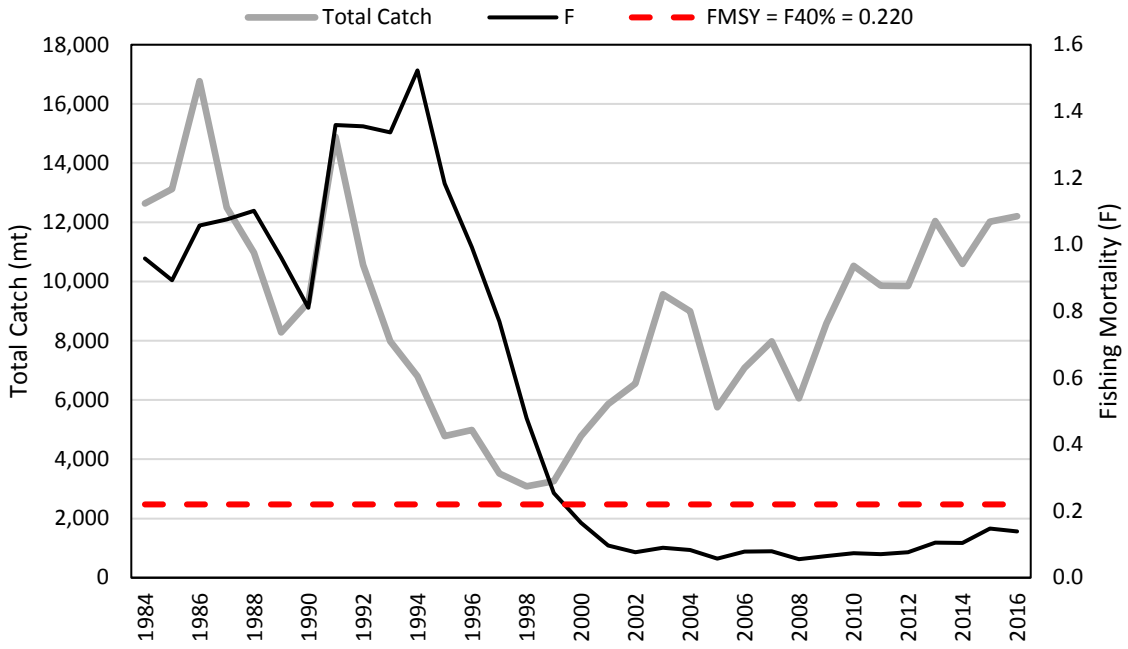

Figure 7: Total fishery catch and fishing mortality rate (F) for fully-selected age 3 scup, 1984-2016. The horizontal dashed line is the fishing mortality reference point from the 2015 benchmark stock assessment (NEFSC 2017a).

The NEFSC bottom trawl survey biomass indices for scup in fall 2015 and spring 2016 were record highs for the time series (i.e. 1963 - present for the fall survey and 1968 through the present for the spring survey). Both seasonal indices decreased after 2016. Several state fishery-independent surveys show similar trends (NEFSC 2018b).

Black Sea Bass

The most recent benchmark stock assessment for black sea bass was peer-reviewed and approved in December 2016. It indicated overfishing was not occurring and the stock was not overfished in 2015. SSB in 2015 was estimated at 48.89 million pounds, about 2.3 times the target level (Figure 8). The fishing mortality rate in 2015 was 0.27, 25% below the threshold level that defines overfishing (Figure 9). Recruitment was relatively constant from 1989-2015 except for large peaks from the 1999 and 2011 year classes (i.e. fish spawned in those years; Figure 8; NEFSC 2017b).

Fishery catch, landings, and discards, as well as NEFSC and state survey catches through 2017 indicate black sea bass biomass continues to be high and the 2015 year class appears to be above average in both the northern and southern surveys, as well as fishery discards (NEFSC 2018c).

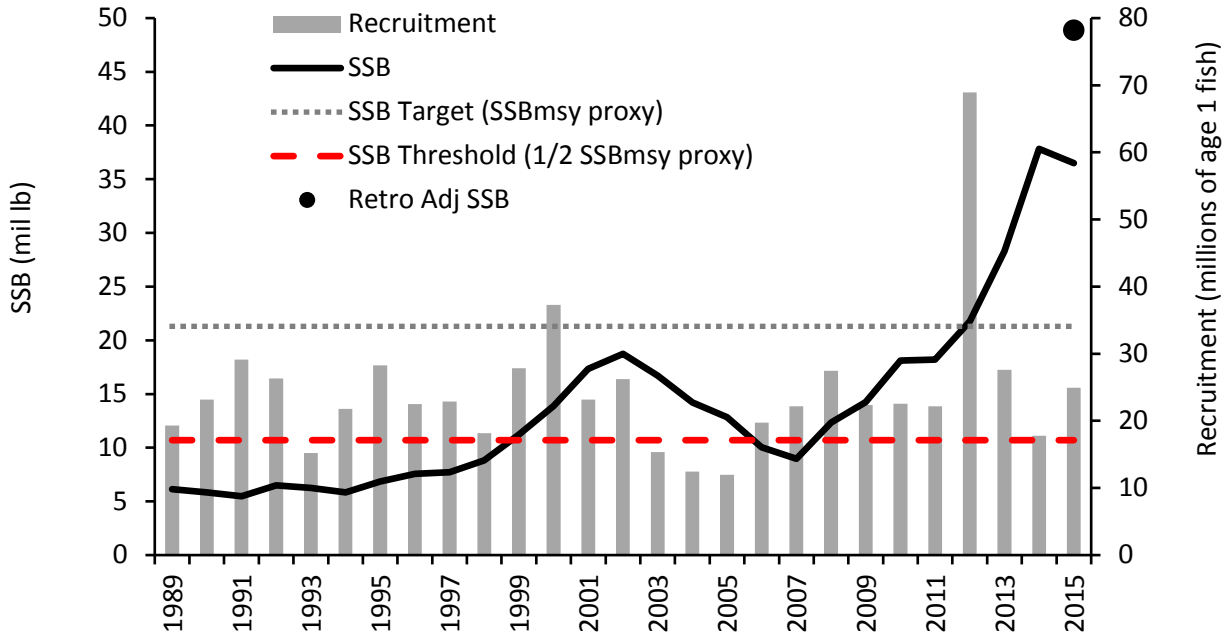

Figure 8: Black sea bass spawning stock biomass and recruitment, 1989 - 2015, and biomass reference points (i.e. SSB target and SSB threshold) from the 2016 benchmark stock assessment. The 2015 retro-adjusted SSB value was generated to correct for the retrospective bias present in the assessment model and is used as the estimate to compare to the reference points (NEFSC 2017b).

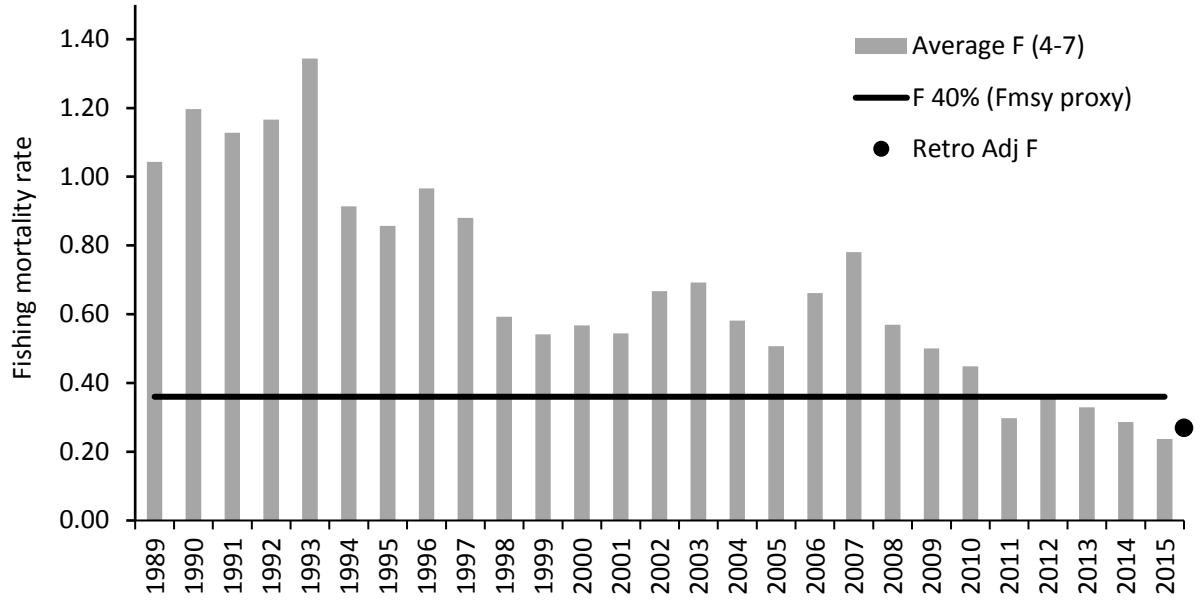

Figure 9: Fishing mortality rate on black sea bass ages 4-7 and the fishing mortality reference point ($F_{MSY\ proxy}$) from the 2016 benchmark stock assessment. The 2015 retro-adjusted fishing mortality rate value was generated to correct for the retrospective bias present in the assessment model and is used as the estimate to compare to the reference points (NEFSC 2017b).

3.0 Proposed Management Program

The following options were developed based on recommendations from the Fishery Management Action Team (FMAT), Board, and Council.

3.1 Issue 1: Black Sea Bass Conservation Equivalency

The FMP requires uniform coastwide (state and federal waters) measures for the recreational black sea bass fishery; however, starting in 2011, the Commission has used several addenda to allow temporary deviations from this requirement through an ad-hoc regional management approach. Under the current process, the Council and Board agree to federal waters measures each year. Individual states or regions work through the Commission process to develop measures for state waters.

For 2018 recreational management, the Commission approved Addendum XXX, which used a combination of historical harvest and exploitable biomass information from the latest stock assessment to allocate the coastwide RHL among three regions: Massachusetts through New York (allocated 61.35% of the coastwide RHL), New Jersey (30.24%), and Delaware through North Carolina, north of Cape Hatteras (8.41%). The states within each region cooperatively developed recreational measures designed to achieve, but not exceed, their regional RHL allocation. Following approval of the regional measures in March 2018, an appeal by the Northern Region states (Massachusetts through New York) and a subsequent directive from the Commission's ISFMP Policy Board led the Board to revise the 2018 management measures

through an ad-hoc approach. Currently, there is no established management program in place for 2019. Recreational management for 2019 will be established through a separate management document.

Options for Black Sea Bass Conservation Equivalency

Note: This addendum does not propose use of conservation equivalency in 2019. It also does not specify allocations or other methodologies that would be used to develop state and/or regional measures and ensure they collectively constrain harvest to the RHL. In addition, it is not specified whether states will individually craft measures or if states will form regions with similar management measures. These details could vary for each year that conservation equivalency is used and will be determined by the Board.

Option 1A: Status Quo (conservation equivalency cannot be used for black sea bass)

Under option 1A, the recreational black sea bass fishery would continue to be managed with uniform coastwide measures in federal waters. The Commission could continue to use ad-hoc regional management to set recreational measures in state waters through addenda. The details of how this is carried out may vary year to year. The Board would also have the option of discontinuing ad-hoc regional management and reverting to uniform coastwide measures or adopting an alternative approach.

Option 1B: Update FMPs to allow Black Sea Bass Conservation Equivalency using the Current Summer Flounder Conservation Equivalency Process

This option proposes updating the FMP to allow conservation equivalency to be used for the recreational black sea bass fishery in future years and establishing a process for black sea bass conservation equivalency based on the process currently used for summer flounder.

Under this process, the Council and Board decide each year whether to use coastwide measures or conservation equivalency. If they agree to conservation equivalency, they must agree on a set of non-preferred coastwide measures consisting of a minimum fish size, possession limit, and season that, if implemented on a coastwide basis, would constrain harvest to the RHL. They also agree to a set of precautionary default measures (described in more detail below).

Individual states or regions then develop proposed measures that, when taken as a whole, are the conservation equivalent of the non-preferred coastwide measures (i.e. would be expected to result in the same level of harvest as the non-preferred coastwide measures). An agreed upon management program forms the basis for the state or regional measures. For example, early in summer flounder management, the Commission's FMP designated state-by-state measures based on each state's proportion of total harvest in 1998. Recent addenda have deviated from these state-by-state measures, and currently regional measures are set to achieve the RHL. The Board would determine the management program to implement conservation equivalency for black sea bass. The Board could agree to develop state or regional measures using a similar or different approach than that used for summer flounder (e.g., similar or different regional alignment or data used to set measures).

The Commission's Technical Committee reviews the state/regional proposals to determine if, as a whole, they are expected to constrain harvest to the RHL. The Board then considers the proposals for approval, taking into account the Technical Committee's recommendations. If the Board does not approve an individual proposal, that state or region may submit a revised proposal.

If a state or region implements measures which are not approved by the Board, then the precautionary default measures would be enforced in that state or region. The precautionary default measures are intended to be restrictive enough to deter states/regions from implementing measures which are not approved through the conservation equivalency process.

After reviewing and approving the state/regional proposals, the Board submits a letter to NOAA Fisheries certifying that the combination of state/regional measures is expected to constrain harvest to the RHL. NOAA Fisheries then either approves or rejects the combination of proposals. If approved, NOAA Fisheries waives the federal waters measures (i.e., the non-preferred coastwide measures) for the remainder of the calendar year in favor of the state or regional conservation equivalency measures. Federally permitted vessels and vessels fishing in federal waters are then subject to the regulations in the states where they land their catch.

Appendix II outlines a potential timeline for black sea bass conservation equivalency based on the typical timeline for the summer flounder process.

Option 1C: Black Sea Bass Conservation Equivalency using the Current Summer Flounder Process and Allowing Conservation Equivalency to Roll Over from One Year to the Next (when appropriate)

This option proposes updating the FMP to allow conservation equivalency to be used for the recreational black sea bass fishery in future years. It proposes establishing a process for black sea bass conservation equivalency based on the process currently used for summer flounder, and would also allow conservation equivalency, as a policy, to roll over from year to year. Conservation equivalency would roll over by default; however, each year, the Board and Council would need to affirm that roll over is appropriate for the next year.

Under the current process for summer flounder, conservation equivalency expires at the end of the year, but the federal waters measures are not waived again until the next spring, after NOAA Fisheries receives a letter from the Commission certifying that the combination of state and regional measures is expected to constrain harvest to the RHL. Thus, from January 1 until NOAA Fisheries completes the rulemaking process to waive the federal waters measures, the non-preferred coastwide measures from the previous year are technically in place in federal waters. This not only creates the potential for confusion, but can also result in federal waters measures that are more restrictive than state waters measures.

Under this option, conservation equivalency would roll over by default, but the Council and Board would still review the non-preferred coastwide and precautionary default measures each year to ensure the fishery would be constrained to the RHL. If the fishery would not be

constrained, then new non-preferred coastwide and precautionary default measures would need to be developed for the upcoming year. Given the timing of data availability from MRIP, the Council and Board would continue to review projected fishery performance in December and final recreational estimates early in the next year.

The Commission would be required to send a letter to NOAA Fisheries certifying that the combination of state/regional measures is expected to constrain harvest to the RHL by May 31, annually. If, by this date, the Commission has not certified that state waters measures would be expected to constrain harvest to the RHL, conservation equivalency roll over would expire and the non-preferred coastwide measures would be implemented in federal waters for the remainder of the calendar year.

3.2 Issue 2: Summer Flounder Conservation Equivalency Rollover
Under the current process for summer flounder, conservation equivalency expires at the end of each year, and a new federal rule must be enacted each year to re-implement conservation equivalency and waive the federal waters measures, as described in the previous section for black sea bass.

Options for Summer Flounder Conservation Equivalency Rollover

Option 2A: Status Quo (conservation equivalency for summer flounder cannot roll over from one year to the next)
Under option 2A, there would be no change to the current summer flounder conservation equivalency process.

Option 2B: Allow Summer Flounder Conservation Equivalency to Roll Over from One Year to the Next (when appropriate)
This option would allow conservation equivalency for summer flounder to roll over from year to year, when appropriate, with the same considerations as described in the previous section for black sea bass. The Council and Board would still review the non-preferred coastwide and precautionary default measures each year to ensure that the fishery would be constrained to the RHL.

The Commission would be required to send a letter to NOAA Fisheries certifying that the combination of state/regional measures is expected to constrain harvest to the RHL by May 31, annually. If, by this date, the Commission has not certified that state waters measures would be expected to constrain harvest to the RHL, conservation equivalency roll over would expire and the non-preferred coastwide measures would be implemented in federal waters for the remainder of the calendar year.

3.3 Issue 3: Block Island Sound Transit Provisions
Under current federal regulations, when summer flounder, scup, or black sea bass fisheries are closed or more restrictive in federal waters, but open or less restrictive in state waters, vessels may not transit federal waters with summer flounder, scup, or black sea bass, or are limited in

their ability to do so. This has been problematic in Block Island Sound, where Rhode Island state waters surrounding Block Island are separated from the coastal state waters of Rhode Island, as well as the state waters of New York, Connecticut, and Massachusetts.

For recreational fishermen, the problem has been most evident during the fall closures in federal waters for recreational black sea bass from 2009 through 2017 (Table 1). In some of those years, state waters in Rhode Island, Connecticut, and/or New York (depending on the year) were open to black sea bass fishing during federal closures, effectively preventing anglers from harvesting in Rhode Island waters surrounding Block Island and returning to the mainland, when Rhode Island waters were open (or the reverse). This has not been an issue for the recreational summer flounder fishery for several years as federal recreational regulations have been waived under conservation equivalency. It has not been an issue for the recreational scup fishery in recent years either, as the federal waters scup season has been open year-round since 2012.

For for-hire and commercial vessels, the problem is more acute if they do not hold federal permits. In federal waters, vessels must have a federal open access party/charter permit to carry passengers for hire, and must have a federal commercial moratorium permit to possess summer flounder, scup, or black sea bass above the recreational possession limits. As such, non-federally permitted for-hire and commercial vessels are unable to legally harvest any of the three species in Rhode Island waters surrounding Block Island and return to the mainland (or the reverse).

Table 1: Federal recreational measures for black sea bass, north of Cape Hatteras, NC, 2007 - 2018.

Years	*Minimum size (inches, total length)*	*Possession limit*	*Open season*
2007-2008	12	25	1/1-12/31
2009	12.5	25	1/1-10/5
2010-2011	12.5	25	5/22-10/11 and 11/1-12/31
2012	12.5	25	5/19-10/14 and 11/1-12/31
2013	12.5	20	5/19-10/14 and 11/1-12/31
2014	12.5	15	5/19-9/18 and 10/18-12/31
2015-2017	12.5	15	5/15-9/21 and 10/22-12/31
2018	12.5	15	5/15-12/31

Options for Block Island Sound Transit Provisions

Note: As the Commission's management authority only applies to state waters, the Board is seeking comment on the following options to help inform its recommendations for federal rulemaking.

Option 3A: Status Quo (no transit provisions)
Under option 3A, no change would be recommended to current federal regulations. The current regulations require the following:

1. **Non-federally permitted[2] recreational fishermen (i.e., private anglers)**, in possession of any of the three species, legally harvested from state waters, may enter/transit/fish in federal waters, provided they remain in compliance with all federal regulations governing the recreational harvest of those species while in federal waters. Upon re-entering state waters (to continue fishing, and/or land), all such fishermen are subject to all applicable regulations of that state.

   If federal regulations for any of the three species are more restrictive than state-waters regulations, private anglers must abide by them while in federal waters. If federal waters are closed, they may not enter/transit/fish in federal waters. If other federal measures (e.g., minimum size, possession limit) are more restrictive, possession of any of the three species must be compliant with those federal measures in federal waters.

2. **Non-federally permitted for-hire and commercial vessels (i.e., state-permitted vessels without a federal open access party/charter permit or a federal commercial moratorium permit)**, in possession of any of the three species, legally harvested from state waters, may not enter/transit/fish in federal waters, given federal permit requirements.

3. **Dual (state and federal) permitted for-hire and commercial vessels**, in possession of any of the three species, legally harvested from state waters, may enter/transit/fish in federal waters, provided they remain in compliance with all federal regulations governing the recreational or commercial possession/harvest of those species while in federal waters. Upon re-entering state waters (to continue fishing and/or land), all such fishermen remain subject to the most restrictive regulations, either federal or state.

   If federal regulations are more restrictive, dual permitted for-hire and commercial vessels must abide by them wherever they fish. If federal waters are closed, they may not enter/transit/fish in federal or state waters. If other federal measures (e.g., minimum size, possession limit, gear) are more restrictive, possession of any of the three species must be compliant with those federal measures in both state and federal waters.

Option 3B: Block Island Sound Transit Provisions for Summer Flounder, Scup, and Black Sea Bass
This option would recommend a change to current federal regulations by establishing a transit area (as defined under sub-option 3B-1 or 3B-2) through which non-federally permitted vessels

[2] Note that in this document, "non-federally permitted" only refers to permits required for possession of summer flounder, scup, and black sea bass. This document is not applicable to Highly Migratory Species permits.

(as defined under sub-option 3B-3 or 3B-4), in possession of any of the three species, legally harvested from state waters, could transit between the Rhode Island state waters surrounding Block Island and the coastal state waters of Rhode Island, New York, Connecticut, or Massachusetts. Transit through the defined area would be allowed provided:

1. Fishermen and harvest are compliant with all applicable state regulations.
2. Gear is stowed in accordance with federal rules.
3. No fishing takes place from the vessel while in federal waters.
4. The vessel is in continuous transit.

If selected, transit through the defined area would be allowed for **non-federally permitted recreational fishermen (i.e., all private anglers)** in possession of any of the three species legally harvested from state waters, when federal regulations governing the recreational harvest of those species are more restrictive. (Private anglers would still be allowed to transit all federal waters when abiding by any more restrictive federal regulations or when federal regulations are less restrictive than state regulations.)

If selected, transit through the defined area would be allowed for **non-federally permitted for-hire and commercial vessels** in possession of any of the three species legally harvested from state waters, at all times. (Non-federally permitted for-hire and commercial vessels would still be prohibited from possessing any of the three species in all other federal waters.)

There would be no change to current federal regulations requiring all federally permitted vessels and dual (state and federal) permit holders to abide by the measures of the state(s) in which they harvest and land their catch, or the federal waters measures, whichever are more restrictive.

Sub-options for Transit Area

Note: If option 3B is selected, only one sub-option for transit area should be chosen (i.e., either sub-option 3B-1 or sub-option 3B-2 below).

Sub-option 3B-1: Block Island Sound Transit Provisions for Summer Flounder, Scup, and Black Sea Bass Apply in a Defined North-South Transit Corridor from Rhode Island State Waters around Block Island Sound to Rhode Island State Coastal Waters

The transit area would be the transit corridor shown in Figures 1 and 2 (NOAA charts 12300 and 13218) and bound by the following coordinates:

- NW (41º18’50”N, -71º32’56”W)
- NE (41º18’20”N, -71º31’27”W)
- SE (41º17’01”N, -71º32’25”W)
- SW (41º17’19”N, -71º33’19”W)

This option defines only the transit area. Transit provisions could apply to recreational vessels only, or both recreational and commercial vessels, depending on the sub-option selected below.

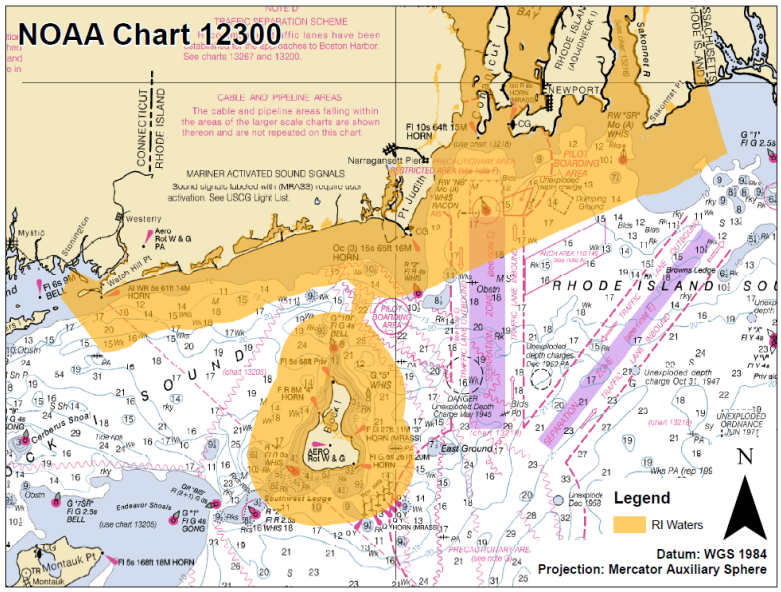

Figure 1: Rhode Island transit area in Block Island Sound (orange corridor north of Block Island).

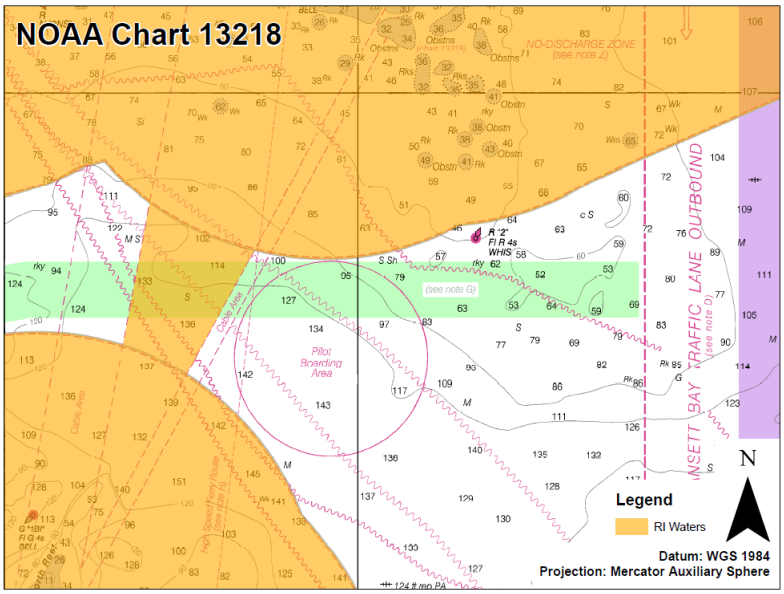

Figure 2: Rhode Island transit area in Block Island Sound (orange corridor north of Block Island).

Sub-option 3B-2: Block Island Sound Transit Provisions for Summer Flounder, Scup, and Black Sea Bass Apply in the Existing Block Island Transit Zone for Striped Bass

The transit area would be identical to the area of the exclusive economic zone (EEZ) around Block Island where transit is allowed for striped bass. This area, as shown in Figure 3, is defined as follows: "The EEZ within Block Island Sound, north of a line connecting Montauk Light, Montauk Point, NY, and Block Island Southeast Light, Block Island, RI; and west of a line connecting Point Judith Light, Point Judith, RI, and Block Island Southeast Light, Block Island, RI" (50 CFR 697.7 (b).

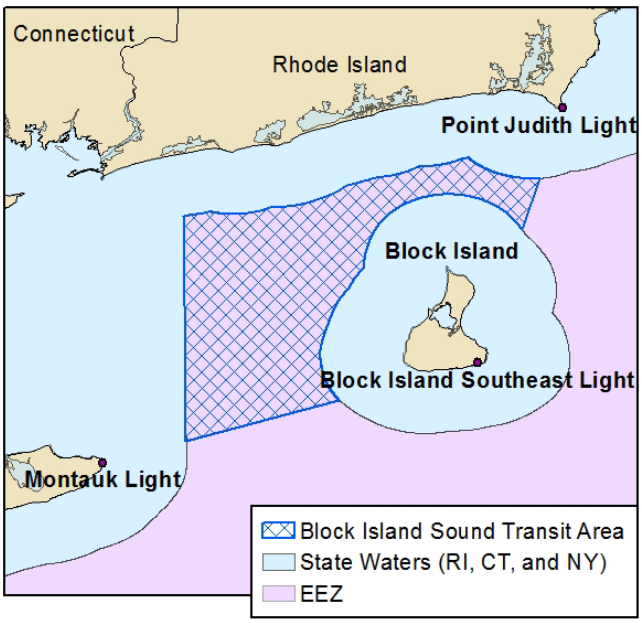

Figure 3: Block Island Transit Zone for Striped Bass (blue hatched area).

This option defines only the transit area. The transit provisions could apply to recreational vessels only, or both the recreational and commercial vessels, depending on the sub-option selected below.

<u>Sub-options for Fisheries Subject to Transit Provisions</u>

Note: If option 3B is selected, only one sub-option for fisheries subject to transit provisions should be chosen (i.e., either sub-option 3B-3 or sub-option 3B-4 below).

Sub-option 3B-3: Recreational Fishery

This option would allow all non-federally permitted recreational fishermen (i.e., private anglers), and all non-federally permitted (i.e., state licensed or permitted) for-hire party/charter vessels, in possession of any of the three species, legally harvested from state waters, to transit through the defined area between the Rhode Island state waters surrounding Block Island and the coastal state waters of Rhode Island, New York, Connecticut, or Massachusetts.

These transit provisions would apply to private anglers only when federal regulations governing the recreational harvest of those species are more restrictive. These transit provisions would apply to all non-federally permitted (i.e., state licensed or permitted) for-hire party/charter vessels at all times.

These transit provisions would not apply to dual (state and federal) permitted for-hire vessels (i.e., those with federal Charter/Party Permits), as all dual permit holders are always required to abide by the measures of the state(s) in which they harvest and land their catch, or the federal waters measures, whichever are more restrictive.

Sub-option 3B-4: Recreational and Commercial Fishery

This option would allow all non-federally permitted recreational fishermen (i.e., private anglers, including those aboard vessels with Highly Migratory Species Permits), all non-federally permitted (i.e., state licensed or permitted) for-hire party/charter vessels, and all non-federally permitted commercial vessels, in possession of any of the three species, legally harvested from state waters, to transit through the defined area between the Rhode Island state waters surrounding Block Island and the coastal state waters of Rhode Island, New York, Connecticut, or Massachusetts.

These transit provisions would apply to private anglers only when federal regulations governing the recreational harvest of those species are more restrictive. These transit provisions would apply to all non-federally permitted (i.e., state licensed or permitted) for-hire party/charter and commercial vessels at all times.

These transit provisions would not apply to dual (state and federal) permitted for-hire and commercial vessels (i.e., those with federal Charter/Party Permits and/or federal commercial moratorium permits), as all dual permit holders are always required to abide by the measures of the state(s) in which they harvest and land their catch, or the federal waters measures, whichever are more restrictive.

4.0 Compliance

For black sea bass conservation equivalency, the Board would determine compliance requirements at the time conservation equivalency is implemented in a given year. For Block Island Sound transit, there are no state compliance requirements beyond current enforcement. State reporting of measures would follow the current process and would include any implementation of slot limits.

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Appendix I. Potential Impacts of Alternatives on Summer Flounder, Scup, and Black Sea Bass and Potential Socio-Economic Impacts of Alternatives

Note: The impacts conclusions summarized below may be modified after additional consideration by Commission and Council staff, the Monitoring Committee, the Board, the Council, and stakeholder input.

1. Introduction

This appendix summarizes the potential impacts of the management options on summer flounder, scup, and/or black sea bass (depending on the option) as well as the potential socio-economic impacts of each option. The impacts are summarized in Table 1 and described in more detail in the following sections.

Table 1. Summary of expected impacts of the management options considered in this addendum/ framework. A minus sign (–) signifies a negative impact relative to current conditions, a plus sign (+) signifies a positive impact, and zero (0) indicates no impact or negligible impacts.

Option(s)		Impacts to summer flounder, scup, and/or black sea bass	Socio-economic impacts
Conservation Equivalency	1A No action	+	-
	1B Black sea bass conservation equivalency	+	+
	1C and 2B Conservation equivalency rollover for black sea bass and summer flounder, respectively	0	+
Block Island Sound Transit	3A No action - no transit provisions	+	-
	3B: Allow transit in a defined area for defined fishermen/vessels (two sub-options for area and two sub-options for fishermen/vessels)	+	+
Slot Limits (Council only)	4A No action	+	Mostly -
	4B Update Council's FMP to allow slot limits to be used in recreational summer flounder, scup, and black sea bass fisheries	-	+ and -

2. Potential Impacts of black sea bass conservation equivalency options

As previously stated, this addendum/framework considers updating the FMPs to allow conservation equivalency to be used for black sea bass in future years. The impacts will vary based on the state and/or regional measures used under conservation equivalency in any particular year. These measures will be determined and analyzed through a separate action.

2.1.1. Potential impacts of conservation equivalency on black sea bass

Under all black sea bass conservation equivalency options, fishing effort and fishing mortality will continue to primarily be constrained by the annual RHL. Therefore, the impacts of these options on black sea bass are not expected to be different than the impacts of the annual RHL. The expected impacts of the RHL are analyzed in a specifications document prepared by the Council each time an RHL is implemented or revised (e.g., MAFMC 2017). The RHL is based on the best available science and is intended to prevent overfishing. As such, the RHL is expected to have positive impacts on black sea bass. These positive impacts are expected to be maintained under either conservation equivalency for black sea bass (option 1B or 1C) or no action (option 1A).

2.1.2. Socio-economic impacts of black sea bass conservation equivalency

Over the past 5 years (i.e. 2013-2017), about 38% of the annual recreational harvest of black sea bass (in numbers of fish) from Maine through North Carolina occurred in federal waters, according to MRIP estimates. The proportion of harvest from state and federal waters varied by state (Table 2).

As previously stated, under current regulations (represented by option 1A), uniform coast-wide measures are required in federal waters. In recent years, states and multi-state regions have developed state/regional specific measures to address regional differences in the fishery (e.g. differences in the size and abundance of black sea bass). In recent years, the states of Maine through New Jersey have implemented state waters measures that differed from the federal waters measures. In some cases, the differences between state and federal waters measures have resulted in angler confusion and non-compliance, state/federal water transit issues (e.g. Block Island Sound), and permitting problems for federal party/charter permit holders. These could be considered negative socio-economic impacts.

If conservation equivalency were to be used for the black sea bass recreational fishery (option 1B or 1C), then the federal waters measures could be waived in favor of the measures of the state where anglers land their catch. This would alleviate many of the issues associated with different state and federal waters measures (e.g. angler confusion and non-compliance, state/federal water transit issues, and permitting problems for federal party/charter permit holders). In addition, conservation equivalency would allow anglers in both state and federal waters to fish under regulations that are tailored to the relevant characteristics of the fishery in their area. This could result in socio-economic benefits due to increased angler satisfaction and decreased non-compliance.

Table 2. Percentage of black sea bass harvest (in numbers of fish) from state and federal waters by state during 2013-2015 according to MRIP data.

State	State waters	Federal waters
NH	100%	0%
MA	92%	8%
RI	79%	21%
CT	93%	7%
NY	61%	39%
NJ	29%	71%
DE	6%	94%
MD	17%	83%
VA	19%	81%
NC	11%	89%
Overall	62%	38%

2.2. Potential impacts of conservation equivalency rollover for black sea bass and/or summer flounder

Option 1C considers allowing conservation equivalency for black sea bass to rollover from one year to the next, if appropriate. Option 2B considers allowing conservation equivalency for summer flounder to rollover from one year to the next (if appropriate). The impacts of these options are not expected to be different for black sea bass and summer flounder; therefore, the conservation equivalency rollover options for the two species are considered together in the following sections.

2.2.1. Impacts of conservation equivalency rollover on black sea bass and summer flounder

The options for conservation equivalency rollover for black sea bass (option 1C) and summer flounder (option 2B) are both administrative in nature. As such, they are not expected to result in any changes in fishing effort or fishing mortality and are not expected to have any direct or indirect impacts on black sea bass or summer flounder.

2.2.2. Socio-economic impacts of conservation equivalency rollover

As previously stated, under the current process for summer flounder (option 2A), conservation equivalency expires at the end of the year, but the federal waters measures are not waived until the spring, after NMFS receives a letter from the Commission certifying that the combination of state and regional measures will constrain harvest to the RHL. Thus, from January 1 until NMFS completes the rule-making process to waive the federal waters measures, the non-preferred coastwide measures from the previous year are technically in place in federal waters. This not only creates the potential for confusion, but can also create a situation where federal waters measures are more restrictive than state waters measures. These could be considered negative socio-economic impacts. Conservation equivalency rollover could be beneficial for recreational fishermen as it would resolve these issues.

2.3. Potential impacts of Block Island Sound transit provisions

2.3.1. Impacts of Block Island Sound transit provisions on summer flounder, scup, and black sea bass

Compared to the no action option (option 3A), all the Block Island Sound transit options (i.e. all sub-options under option 3B) are expected to lead to a slight increase in fishing effort for summer flounder, scup, and black sea bass in Rhode Island state waters off Block Island. Under these options, in situations where federal waters measures are more restrictive than state waters measures, non-federally permitted fishermen/vessels would be able to transit through a defined area of federal waters in order to fish in state waters off Block Island and return to the mainland, or vice versa, while complying with the state regulations. Under current regulations, fishermen/vessels must comply with the federal waters measures when they are in federal waters, including the federal waters that separate Rhode Island state waters around Block Island from state waters adjacent to the mainland.

The degree of the potential increase in fishing effort varies depending on the sub-options chosen. For example, the combination of sub-options 3B-2 (transit allowed in the striped bass transit area) and 3B-4 (for legally authorized recreational and commercial fishermen/vessels) would result in the greatest potential increase in fishing effort because it would apply to the greatest area and likely involve the greatest number of fishermen/vessels of all the options considered.

Although a slight increase in fishing effort is expected under these options, fishing effort will continue to be primarily constrained by the annual RHL and commercial quota, which are set based on the best available science and are intended to prevent overfishing. Therefore, the impacts of these options on summer flounder, scup, and black sea bass are not expected to be different than the impacts of the RHL and commercial quota, which are analyzed in a specifications document prepared by the Council each time an RHL or quota is implemented or revised (e.g. MAFMC 2017). Because these measures are based on the best available science and are intended to prevent overfishing, they are generally expected to have positive impacts on summer flounder, scup, and black sea bass. The Block Island Sound transit options are not expected to change these impacts. These positive impacts to the stocks are expected to be maintained under all Block Island Sound transit options.

2.3.2. Socio-economic impacts of Block Island Sound transit provisions

With the exception of the no action option (option 3A), the Block Island Sound transit options would allow non-federally permitted recreational and/or commercial fishermen/vessels (depending on the sub-option chosen) to transit federal waters in a defined area while complying with the state waters measures for summer flounder, scup, and black sea bass. In situations where the federal waters recreational measures are more restrictive than the state waters measures, this could allow for a slight increase in fishing effort for and harvest of these species in the state waters around Block Island. Given federal commercial permit requirements, transiting would allow for an increase in effort by state-only licensed commercial fishermen from RI, and to a lesser extent, commercial fishermen from other states. As such, transit

provisions could lead to increased revenues for commercial fishermen, for-hire operations, and associated industries, as well as increased fishing opportunities for commercial and/or recreational fishermen (depending on the sub-option selected). For these reasons, all Block Island Sound transit options are expected to have positive socio-economic impacts, compared to the no action option (option 3A).

The no action option could be considered to have negative socio-economic impacts because, in all situations, state-only licensed commercial and for-hire vessels, legally authorized to harvest from the state waters around Block Island, are unable to transit back to state waters adjacent to the mainland to offload. Also, in certain situations, it can require private anglers to comply with federal measures which are more restrictive than state waters measures because they must pass through federal waters to return from state waters around Block Island Rhode Island to the mainland. For example, as described earlier in this document, in recent years, state waters in Rhode Island, Connecticut, and/or New York (depending on the year) have sometimes been open to recreational black sea bass fishing during the fall federal waters closure. Therefore, if anglers retained any black sea bass during the federal waters closure, they would be in violation of the federal regulations while transiting federal waters, even if those fish were legally caught in state waters. The no action option can have similar implications for situations where the federal waters minimum fish size limit and/or possession limit is more restrictive than the state waters measures. For these reasons, the no action option can have negative socio-economic impacts.

2.4. Potential impacts of slot limits

This addendum/framework does not consider implementing any particular slot limits. Rather, it proposes updating the Council's FMP to allow slot limits to be used in future years. The potential impacts of slot limits are summarized below, but will vary depending on the particular slot limit used.

2.4.1. Impacts of no action (i.e. slot limits cannot be used) on summer flounder, scup and black sea bass

The Monitoring Committee has concluded in the past that standard minimum fish size limits are one of the most powerful tools to constrain recreational harvest to the RHL. In years when a decrease in harvest is needed, increasing the minimum size limit can have a greater impact on harvest than decreasing the season or possession limit. For this reason, use of a traditional minimum size limit can have positive impacts on the summer flounder, scup, and black sea bass stocks as it can be an effective tool to constrain harvest and prevent overfishing. Some negative impacts are possible due to the potential to concentrate fishing effort on larger, older fish which may have greater contributions to spawning than smaller fish; however, in general, the impacts of traditional slot limits on summer flounder, scup, and black sea bass are mostly positive.

2.4.2. Socio-economic impacts of no action (i.e. slot limits cannot be used)

To the extent that traditional minimum fish size limits are an effective tool to prevent overfishing, they could be considered to have positive socio-economic impacts. However, as

described in more detail below, compared to slot limits, traditional minimum fish sizes can result in both higher discards and lower harvest in numbers of fish (Wong 2009, Wiedenmann et al. 2013). These could be considered negative socio-economic impacts.

2.4.3. Impacts of slot limits on summer flounder, scup, and black sea bass

Slot limits are intended to reduce fishing mortality on larger fish. For some species, females reach larger sizes than males and bigger, older females tend to produce more offspring than younger fish. Thus, in theory, slot limits could have positive impacts on recruitment for some species by reducing fishing mortality on large females. The following sections summarize the potential impacts of slot limits on summer flounder, scup, and black sea bass based on past analyses and the life history of each species.

Impacts to summer flounder

In 2009, the Monitoring Committee analyzed a range of slot limit options for the recreational summer flounder fishery using for-hire catch data from 2008. The analysis also considered a range of bag limits and options for trophy fish in combination with slot limits. The results indicated that, compared to a standard minimum size limit, the slot limit options considered would "certainly result in greatly increased numbers of fish harvested" due to the higher availability of smaller fish compared to larger fish. Although discards may decrease under certain slot limits, total removals (i.e. harvest and discards) would likely increase due to the increase in harvest. An increase in removals in numbers of fish would increase the fishing mortality rate. Under some slot limit options, marginal benefits to SSB were predicted; however, these benefits were eliminated when a trophy class was considered in combination with slot limits (Wong 2009).

A management strategy evaluation analysis by Wiedenmann et al. (2013) also found that slot limits could result in an increase in the number of summer flounder harvested per angler, as well as a small reduction in the total number of female summer flounder harvested. They found that slot limits generally resulted in lower harvest and more discards by weight, and higher and more frequent ACL overages, compared to minimum size limits.

In summary, these two studies suggest that total removals in numbers of fish may increase under slot limits, the fishing mortality rate may increase, and any increases in SSB may be minor. For these reasons, slot limits could have negative impacts on the summer flounder stock, especially under current conditions (i.e. overfishing is occurring and SSB is below the target level).

Impacts to scup

An analysis of slot limits for scup has not been performed. Female and male scup have similar growth rates (NEFSC 2015); therefore, unlike summer flounder, slot limits would not have disproportionate impacts on females compared to males.

As previously stated, scup reach a maximum age of at least 14 years; however, few scup older than 7 years are caught in the mid-Atlantic (Northeast Data Poor Stocks Working Group 2009,

NEFSC 2015). Scup reach a maximum length of at least 46 cm (18 inches; NEFSC 2015). In theory, slot limits should be most beneficial for longer-lived species and scup are not a particularly long-lived species.

For all these reasons, the scup stock may not benefit from slot limits. In addition, if slot limits lead to increased harvest in numbers of fish, as suggested by Wong (2009) and Wiedenmann et al. (2013) for summer flounder, then slot limits could lead to an increased fishing mortality rate, compared to a traditional minimum size limit. Given the current high biomass of scup, an increased fishing mortality rate may not have major negative impacts on the stock, depending on the degree of the increase. In summary, the impacts of slot limits on the scup stock could be negligible or slightly negative.

Impacts to black sea bass

An analysis of slot limits for black sea bass has not been performed. Due to the protogynous life history of black sea bass (i.e. larger, older fish tend to be males), slot limits could disproportionately impact males compared to females.

Multiple studies have suggested that the black sea bass stock is somewhat resilient to the removal of large males due to the contribution of smaller, secondary males (i.e. mature males without the bright coloration or nuccal humps of dominant males) to spawning (NEFSC 2017). For example, Blaylock and Shepherd (2016) concluded that the black sea bass stock from Maine through Cape Hatteras is more resilient to exploitation than a typical protogynous hermaphrodite species because not all larger individuals are males and secondary males contribute to spawning.

Some Council, Board, Monitoring Committee, and Advisory Panel members have expressed concerns about higher mortality rates due to barotrauma for larger, compared to smaller, black sea bass. Because slot limits would increase discards of larger fish, compared to traditional minimum size limits, use of slot limits for black sea bass could lead to an increase in discard mortality due to barotrauma.

In addition, if slot limits lead to increased harvest in numbers of fish, as suggested by Wong (2009) and Wiedenmann et al. (2013) for summer flounder, then slot limits could lead to an increased fishing mortality rate, compared to a traditional minimum size limit. Given the current high biomass of black sea bass, an increased fishing mortality rate may not have major negative impacts on the stock, depending on the degree of the increase. In summary, the impacts of slot limits on the black sea bass stock could be negligible or negative.

2.4.4. Socio-economic impacts of slot limits

As summarized above, Wong (2009) and Wiedenmann et al. (2013) suggested that total summer flounder removals in numbers of fish may increase under slot limits. The same may also be true for scup and black sea bass; however, slot limits have not been analyzed for these species. This could result in socio-economic benefits as it could allow anglers to retain more fish and would increase angler satisfaction. However, if the increase in removals is great enough to

negatively impact the stock and significantly increase the risk of overfishing, this could result in longer-term negative socio-economic impacts if it leads to reduced availability or requires more restrictive management measures to be implemented in future years.

An analysis by the Monitoring Committee suggested that, given differences in availability of smaller summer flounder, slot limits could result in a disproportionate increase in harvest from shore, compared to for-hire mode and private/rental boats, assuming other regulations were unchanged (Wong 2009). Due to this increase in harvest, slot limits could have greater positive impacts for anglers fishing from shore than for anglers fishing from boats. The same may be true for scup. A very small percentage of recreational black sea bass harvest comes from the shore mode.

The impacts of slot limits depend, in part, on the particular slot implemented. For example, slot limits that allow retention of smaller fish could allow greater harvest from shore, compared to other modes, and in certain states (e.g. Maryland and North Carolina where bays are important recreational fishing areas), compared to others. Slot limits at larger sizes could disadvantage the shore mode and those states compared to others (Wong 2009). Over the past 10 years (i.e. 2008-2017), the shore mode generally accounted for less than 10% of the summer flounder harvest in each state. North Carolina is a notable exception, where it accounted for about 26% of the summer flounder harvest in numbers of fish.

Based on Wong 2009, the Monitoring Committee concluded that a very narrow slot limit would be necessary to constrain summer flounder harvest to the RHL. Narrow slot limits could be more challenging to enforce and could lead to greater non-compliance than wider slot limits or a standard minimum size. For these reasons, slot limits could have some negative socio-economic impacts in years when RHLs are low and harvest must be constrained. Wider slots would be possible under higher RHLs.

In addition, slot limits would require anglers to discard fish above a certain size. This could be unappealing to some anglers, which could decrease angler satisfaction and may increase the potential for non-compliance, compared to a traditional slot limit. These would be considered negative socio-economic impacts. Allowance of a trophy fish in combination with a slot limit could address these concerns.

In summary, the socio-economic impacts of slot limits could be mixed (i.e. both positive and negative) and would depend on the particular slot limits used.

Appendix I References

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Appendix II. Timeline of Summer Flounder Conservation Equivalency Process

This timeline reflects current practice for summer flounder conservation equivalency in recent years. The timeline can vary year to year. In years when the Commission develops an addendum to modify summer flounder conservation equivalency, the timeline can be delayed and additional steps are added to the Board's process.

<table>
<tr><td colspan="2">August
Council/Board recommend Recreational Harvest Limit (RHL) to NMFS and Board takes final action on RHL for state waters.
October
Preliminary MRIP data available for waves 1-4 (i.e. January - August) of current year.
November
Monitoring Committee reviews MRIP data through wave 4 and develops recommendations on overall % reduction required (if applicable) and use of coastwide measures or conservation equivalency (including the non-preferred coastwide and precautionary default measures).
December
Council/Board recommend either conservation equivalency OR coastwide measures. If conservation equivalency, they also recommend non-preferred coastwide and precautionary default measures.
NMFS publishes final rule announcing subsequent year's RHL.</td></tr>
<tr><td><u>State Conservation Equivalency Measures</u>
January
• States/regions submit conservation equivalency proposals to Commission staff.
• Technical Committee meets to evaluate proposals.
February
• Board meeting to approve/disapprove proposals.
March
• Council staff submits recreational measure package to NMFS. Package includes:
o Overall % reduction required (if applicable)
o Non-preferred coastwide and precautionary default measures; and
o Recommendation to implement conservation equivalency.
April
• NMFS publishes proposed rule for recreational measures announcing the overall % reduction required (if applicable) and the non-preferred coastwide and precautionary default measures to be used under conservation equivalency.
• Board submits a letter to NMFS certifying that the combination of state/regional measures is expected to constrain harvest to the RHL.
May
• NMFS publishes final rule announcing overall % reduction required (if applicable) and one of the following scenarios:
o Approval of conservation equivalency; or
o Coastwide measures</td><td><u>Coastwide Measures</u>
February
• Council staff submits recreational measure package to NMFS. Package includes:
o Overall % reduction required (if applicable); and
o Coastwide measures.
April
• NMFS publishes proposed rule for recreational measures announcing the overall % reduction required (if applicable) and coastwide measures.
May
• NMFS publishes final rule announcing overall % reduction required (if applicable) and coastwide measures.</td></tr>
</table>